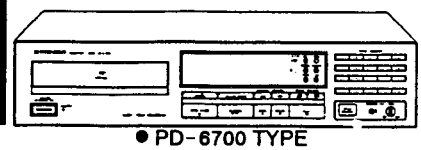
PIONEER
The Art of Entertainment

GA-S

Service Manual



● PD-6700 TYPE

ORDER NO.
ARP2193

COMPACT DISC PLAYER

PD-5700

Type	Model					Power Requirement	Remarks
	PD-6700	PD-6700-S	PD-5700	PD-5700-S	PD-4700		
KU	○	–	○	–	○	AC 120V only	
KC	○	–	○	–	○	AC 120V only	
KUXJ	○	–	○	–	○	AC 120V only	
KCXJ	○	–	○	–	○	AC 120V only	
SD	–	–	○	–	○	AC 110V, 120V-127V, 220V, 240V (switchable)	
UPW	–	–	○	–	○	AC 230V-240V	
MEMXJ	○	–	○	–	○	AC 220V-230V	
MEWMXJ	–	○	–	○	–	AC 220V-230V	
UBXJ	○	–	○	–	○	AC 230V-240V	

- **This manual is applicable to the PD-6700/KU, KC, KUXJ, KCXJ, PD-5700/KU, KC, KUXJ, KCXJ, PD-4700/KU, KC, KUXJ and KCXJ types.**
- **As to the PD-6700/KC, KUXJ and KCXJ types, refer to pages 76.**
- **As to the PD-5700/KC, KUXJ and KCXJ types, refer to pages 76.**
- **As to the PD-4700/KC, KUXJ and KCXJ types, refer to pages 77.**
- **As to the other types, refer to applicable service manuals.**
- **Ce manuel pour le service comprend les explications de réglage en français.**
- **Este manual de servicio trata del método ajuste escrito en español.**

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This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

1. SAFETY INFORMATION

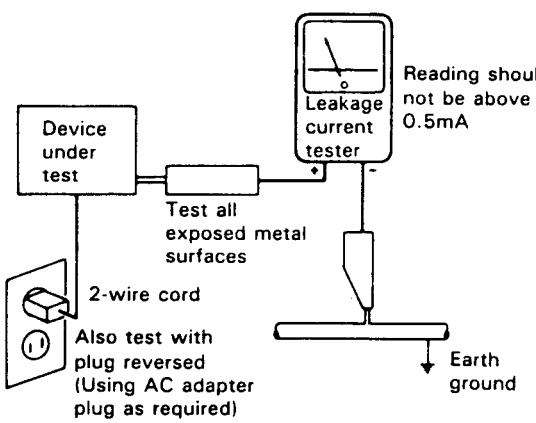
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Leakage current tester
Reading should not be above 0.5mA
Device under test
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. DISASSEMBLY

● REMOVING THE BONNET

① Remove six screws to the bonnet.
② Remove the bonnet by pulling up it in the vertically direction of arrow .
To easily remove the bonnet, pull outward on both sides of the bonnet then pull it diagonally toward the rear of the unit.
Note : If you pull up the rear base of the bonnet to remove it as in the conventional manner, the hooks shown in Fig. 2-1 may be caught and the hooks on the front panel side may be deformed.

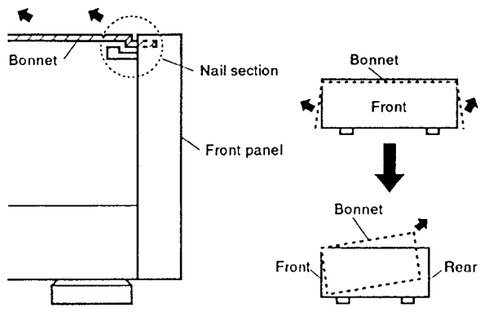


Fig. 2-1

● REMOVING THE TRAY

① Turn the POWER switch ON, and open the tray by the OPEN/CLOSE key. (Refer to the Note 1 when opening the tray by hand-operated.)
② Pull out the tray slowly by pushing the nail of the tray section from two holes Ⓒ and Ⓓ of the clamper base (Fig. 2-2) .
(It is necessary to push the nail of the tray section at the front panel portion.)
Note 1:How to open the tray by hand-operated

① Turn the gear B slowly in the direction of arrow by ⊖ screwdriver with care not to damage the gear B (Fig. 2-2) .
② Turn gear B until the tray starts to move in the direction of the OPEN position.
③ Move the tray to the OPEN position by hand.

Note: When attaching the tray, be sure attach it when the servo mechanism assembly is in the completely lowered position (when the rack has been moved all the way back) .
Otherwise, the upward and downward movements of the servo mechanism assembly may not synchronize with the movements of the tray. If the tray has been incorrectly attached, re-attach it as follows.

① Remove the tray following Step 2 of "REMOVING THE TRAY".
② Move the rack all the way back by hand.
③ Install the tray.

● REMOVING THE FRONT PANEL

① Remove five screws Ⓐ (Upper side is two screws and under side is three screws.) to the front panel.
② Remove a screw Ⓑ to the Headphone board assembly (Fig. 2-2) .
③ Disconnect two connectors CN351 and CN401 from the Mother board assembly (Fig. 2-2) .
④ Remove the front panel and the Headphone board assembly together.
CAUTION : When CN351 is connected and disconnected, be sure to disconnect the AC power cord from the AC outlet. If not, microcomputer (IC351) may be destroyed.

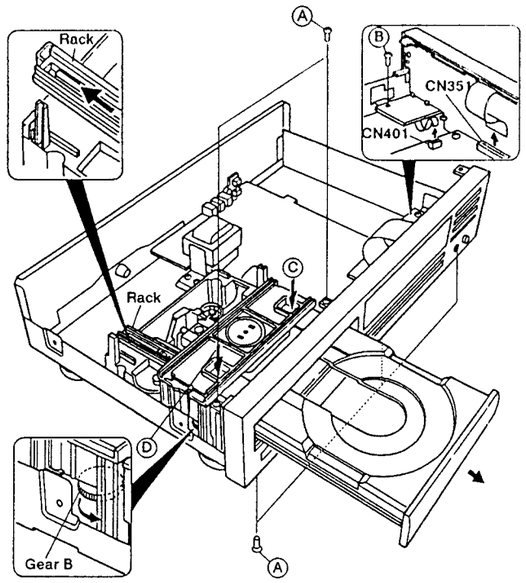


Fig. 2-2

● REMOVING THE SERVO MECHANISM ASSEMBLY

① Remove the tray.(Refer to the "REMOVING THE TRAY".)
② Remove the four screws Ⓔ and one screw Ⓕ with the servo mechanism assembly lowered (to the tray-open position) (Fig. 2-3)
③ To move the rack by hand, gear A and the gear section of the rack must be engaged at section Ⓖ (see Fig. 2-3) .
Otherwise, the rack may not move. In this case, move gear B with a ⊖ screwdriver from the side and fit gear B and the gear section of the rack at the engaging section Ⓖ .

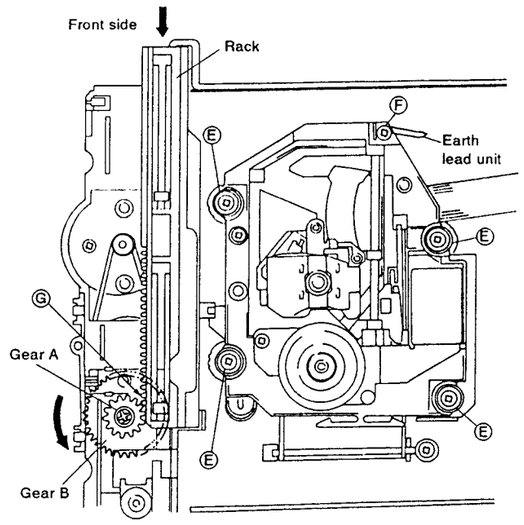


Fig. 2-3

④ Push the slide bushing at the front left with a thin implement such as a ⊖ screwdriver (Fig. 2-4) .
⑤ Pull up the rear side H of the servo mechanism assembly. (Arrow ① in Fig. 2-4)
⑥ To release the engagement at section Ⓙ of the servo mechanism assembly, turn the assembly counterclockwise on the slide bushing Ⓘ (Arrow ② in Fig. 2-4)

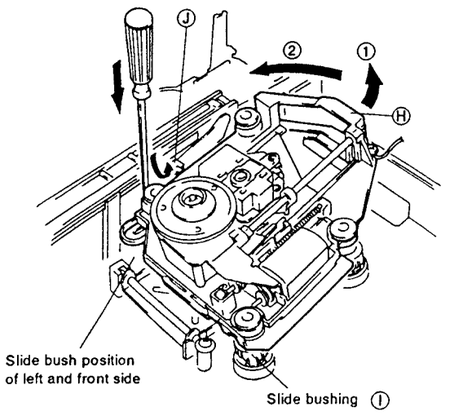


Fig. 2-4

● REMOVING THE SWING LEVER

① Move the rack manually so that section Ⓚ of the swing lever reaches the inclined part Ⓛ of a groove on the rack. (see Fig. 2-5)
② Remove screw Ⓜ which holds the shaft.
③ Slightly pull up the right side of the shaft (the side of screw Ⓜ) and pull the shaft outward in the direction of arrow ③ .

● REMOVING THE SLIDE BUSHING

① Compress the slide bushing from three directions as shown in Fig. 2-5.
② Remove the bushing by turning it in the direction of the arrow ④

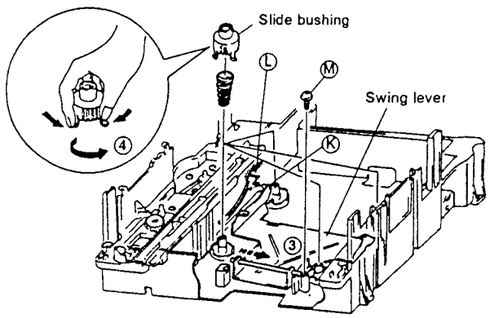
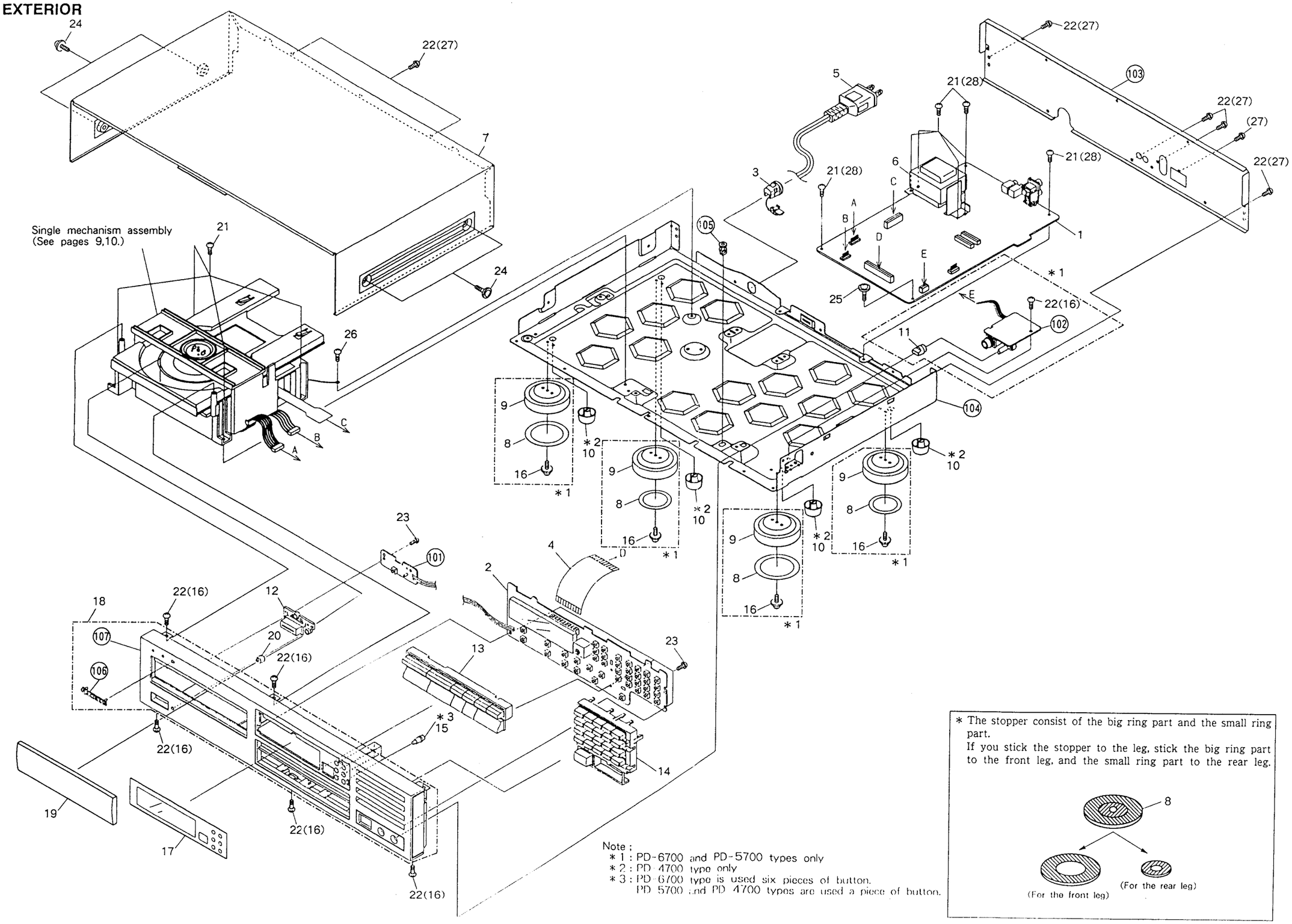


Fig. 2-5

3. EXPLODED VIEWS AND PARTS LIST

3.1 EXTERIOR



Note ;
*1 : PD-6700 and PD-5700 types only
*2 : PD-4700 type only
*3 : PD-6700 type is used six pieces of button.
PD-5700 and PD-4700 types are used a piece of button.

* The stopper consist of the big ring part and the small ring part.
If you stick the stopper to the leg, stick the big ring part to the front leg, and the small ring part to the rear leg.

NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Parts List of Exterior Section

Mark	No.	Description	Part No.
◉	1	Mother board assembly (PD-6700 type only)	PWM1429
◉	1	Mother board assembly (PD-5700 type only)	PWM1425
◉	1	Mother board assembly (PD-4700 type only)	PWM1421
◉	2	Function board assembly (PD-6700 type only)	PWZ2103
◉	2	Function board assembly (PD-5700 type only)	PWZ2096
◉	2	Function board assembly (PD-4700 type only)	PWZ2094
⚠	3	Strain relief (PD-6700 type only)	CM-22C
⚠	3	Strain relief (PD-5700 and PD-4700 types only)	CM-22
	4	Flexible cable (30P) (PD-6700 and PD-5700 types only)	PDD1049
	4	Flexible cable (28P) (PD-4700 type only)	PDD1070
⚠	5	AC power cord (PD-6700 type only)	PDG1015
⚠	5	AC power cord (PD-5700 and PD-4700 types only)	PDG1040
⚠	6	Power transformer (AC120V)	PTT1187
	7	Bonnet	PYY1147
	8	Stopper (PD-6700 and PD-5700 types only)	PNM1070
	9	Insulator (PD-6700 and PD-5700 types only)	VNK1095
	10	Leg assembly (PD-4700 type only)	PXA1201
	11	Headphone knob (PD-6700 and PD-5700 types only)	PAC1370
	12	Power button	PAC1540
	13	Play button B (PD-6700 and PD-5700 types only)	PAC1542
	13	Play button A (PD-4700 type only)	PAC1541
	14	Select button (PD-6700 type only)	PAC1545
	14	Program button B (PD-5700 type only)	PAC1544
	14	Program button A (PD-4700 type only)	PAC1543
	15	Time button B (PD-6700 and PD-5700 types only)	PAC1549
	15	Time button A (PD-4700 type only)	PAC1546
	16	Screw (PD-6700 type only)	IBZ30P080FCC
	17	Display window CK (PD-6700 type only)	PAM1470
	17	Display window BK (PD-5700 type only)	PAM1463
	17	Display window AK (PD-4700 type only)	PAM1462
	18	Function panel assembly (PD-6700 type only)	PEA1141
	18	Function panel assembly (PD-5700 type only)	PEA1140
	18	Function panel assembly (PD-4700 type only)	PEA1139
	19	Tray name plate	PNW1900
	20	LED lens	PNW2019
	21	Screw	BBZ30P060FMC
	22	Screw	BBZ30P080FZK
	23	Screw	BBZ30P120FMC
	24	Screw	FBT40P080FZK
	25	Screw	IBZ30P150FCC
	26	Screw	PDZ30P050FMC
	27	Screw (PD-6700 type only)	BBZ30P080FCC
	28	Screw (PD-6700 type only)	IBZ30P060FCC
	101	Switch board assembly	
	102	Headphone board assembly (PD-6700 and PD-5700 types only)	
	103	Rear base	
	104	Under base	
	105	PCB spacer	
	106	PIONEER badge	
	107	Function panel C (PD-6700 type only)	
	107	Function panel B (PD-5700 type only)	
	107	Function panel A (PD-4700 type only)	

3.2 MECHANISM SECTION

Parts List of Mechanism Section

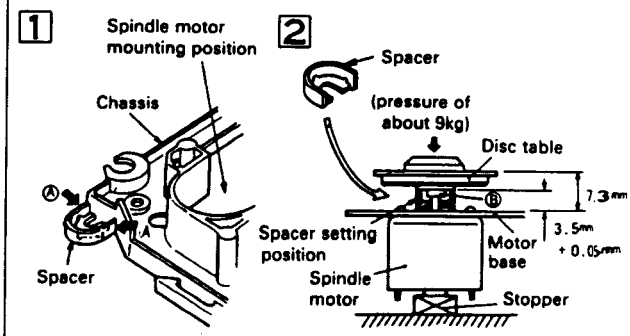
Mark	No.	Description	Part No.
	1	Lever switch (CLAMP)	DSK1003
	2	Screw	PBA1042
	3	Coil spring	PBH1085
	4	Rubber belt	PEB1127
	5	Motor pulley	PNW1634
	6	Clamper base	PNW1673
	7	Rack	PNW1674
	8	Synchronized plate	PNW1675
	9	Gear A	PNW1676
	10	Gear B	PNW1677
	11	Gear Pulley	PNW1678
	12	Sensor head	PNW1679
	13	Slide bushing	PNW1680
	14	D. C. motor (0.75W) (LOADING)	PXM1010
	15	Floating rubber	PEB1014
	16	Floating rubber	PEB1132
	17	Screw	BPZ26P080FMC
	18	Screw	IPZ30P080FMC
	19	Screw	PMZ26P040FMC
	20	Washer	WT26D047D025
	21	Earth spring	PBH1009
	22	Drive spring	PBH1084
	23	Plate spring	PBK1057
	24	Belt	PEB1072
	25	Drive screw	PLA1003
	26	Guide bar	PLA1071
	27	Pulley	PNW1066
	28	Half nut	PNW1605
	29	Disc table	PNW1608
	30	• • • • •	
	31	Push switch (INSIDE)	DSG1014
	32	Screw	PBZ30P080FMC
	33	D. C. motor (1.7W) (CARRIAGE)	PXM1013
	34	Screw	BPZ20P080FMC
	35	Screw	JFZ20P025FMC
	36	Screw	PMZ20P030FMC
	37	D. C. motor assembly (SPINDLE) (with oil)	PEA1028
	38	Pickup assembly	PEA1030
	39	Variable resistor (VR1)	PCP1008
	40	Chip capacitor (C1001)	CKSYF105Z16
	41	Washer	WA62D095D013
	42	Tray	PNW1838
	43	Swing lever	PNB1296

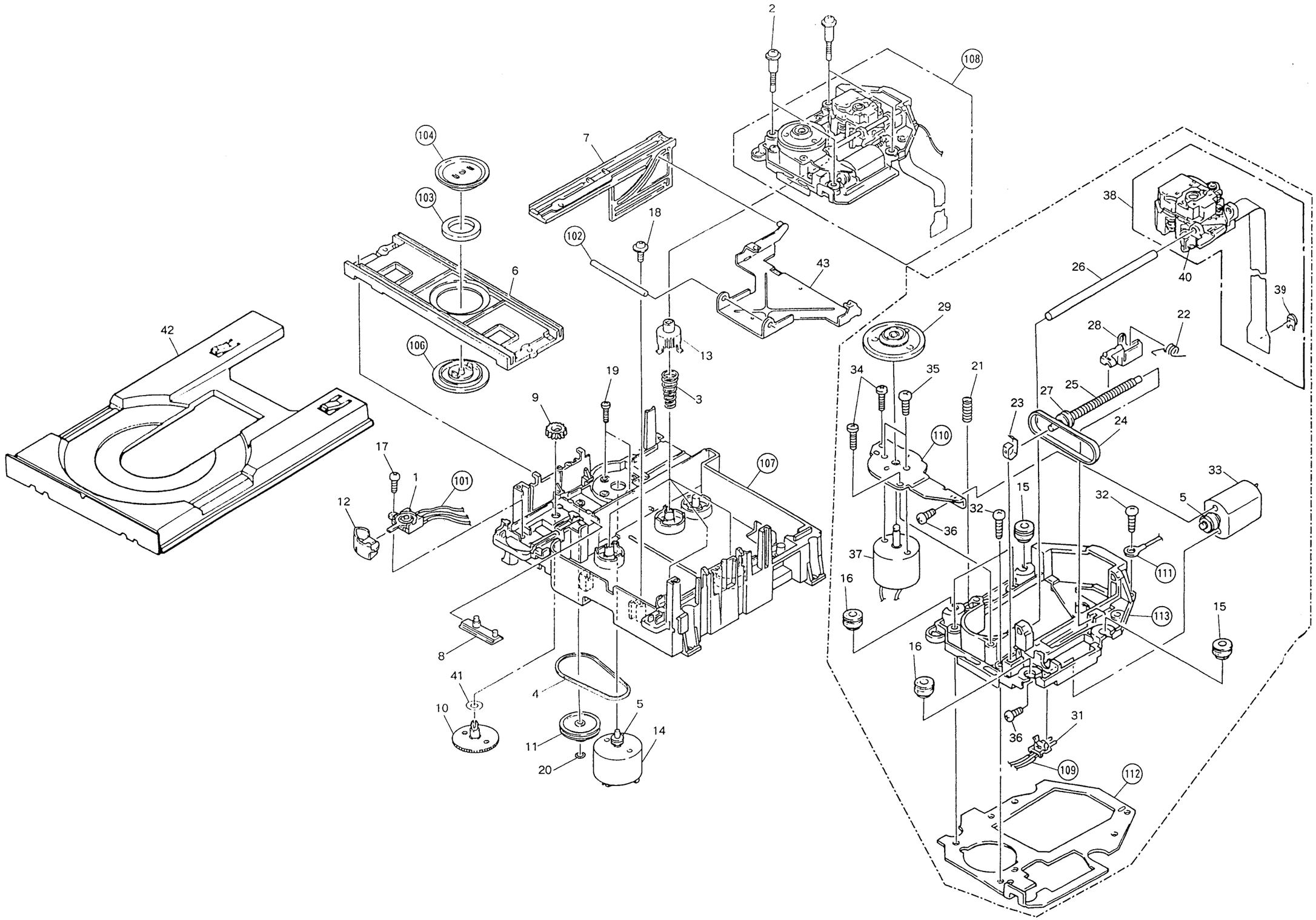
Mark	No.	Description	Part No.
	101	2mm pitch connector assembly (5P)	
	102	Shaft	
	103	Clamp magnet	
	104	Yoke	
	105	• • • • •	
	106	Clamper S	
	107	Loading base	
	108	Servo mechanism assembly	
	109	2mm pitch connector assembly (6P)	
	110	Motor base	
	111	Earth lead unit (300V)	
	112	Mechanism base	
	113	Mechanism chassis	

• How to install the disc table

1 Use nippers or other tool to cut the two sections marked Ⓐ in figure 1. Then remove the spacer.

2 While supporting the spindle motor shaft with the stopper, put spacer on top of the motor base (angled so it doesn't touch section Ⓑ), and stick the disc table on top (takes about 9kg pressure). Take off the spacer.

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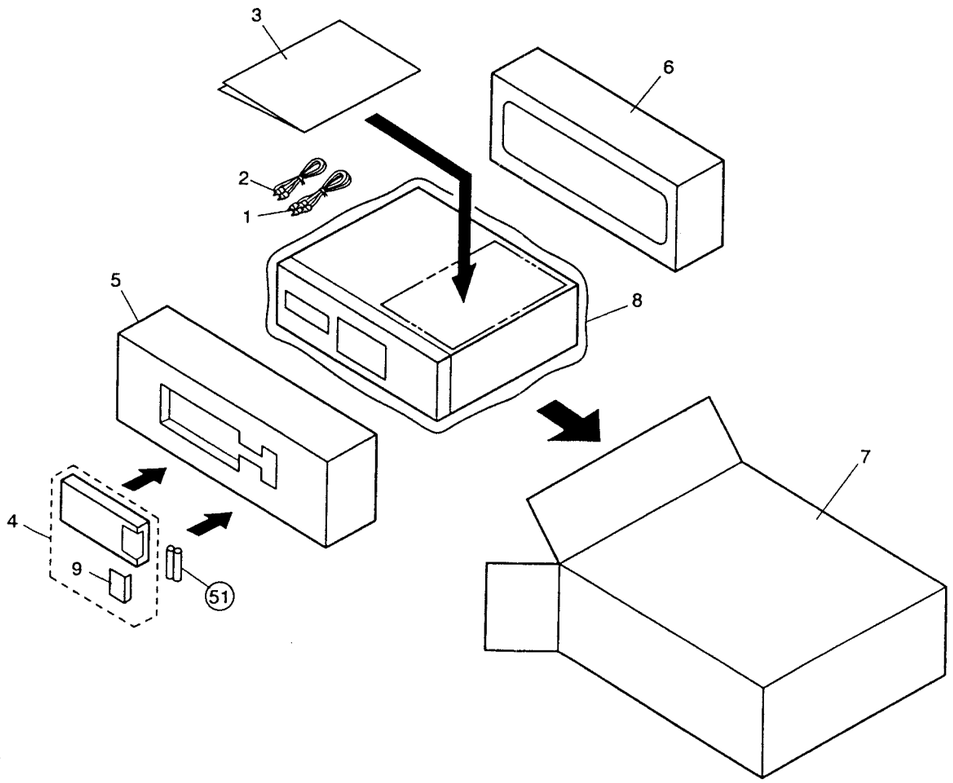
4. PACKING

Parts List

Mark	No.	Description	Part No.
	1	Connection cord with mini plug	PDE-319
	2	Connection cord with pin plug	PDE1109
	3	Operating instructions (English)	PRB1138
	4	Remote control unit (PD-6700 type)	PWW1060
	4	Remote control unit (PD-5700 type)	PWW1061
	5	Protector F	PHA1116
	6	Protector R	PHA1117
	7	CD packing case (PD-6700 type)	PHG1700
	7	CD packing case (PD-5700 type)	PHG1699
	7	CD packing case (PD-4700 type)	PHG1698
	8	Mirror mat sheet	Z23-007
	9	Battery cover (PD-6700 and PD-5700 types)	PZN1001
	51	Dry cell battery(R03, AAA)	



5. IC INFORMATION

■ PD2026A

D/A converter

● Pin Function

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
1	P/$\overline{S}$	I*	Switching the serial and parallel controls.	20	LATCH (EM1)	I*	Data latch signal input for attenuator when controlling the serial. Select the deemphasis filter mode when controlling the parallel.
2	RZ	O	Digital zero detection output of R ch.				
3	$\overline{TEST}$	I*	Test terminal (usually, use at "H")				
4	VDA	–	Analog power supply for R ch DA converter.	21	SHIFT (EM2)	I	Shift clock input for attenuator when controlling the serial. Select the deemphasis filter mode when controlling the parallel.
5	RO	O	Data positive direction output of R ch.				
6	$\overline{RO}$		Data reverse direction output of R ch.				
7	GNDA	–	Analog ground for R ch DA converter.				
8	GNDA	–	Analog ground for L ch DA converter.				
9	$\overline{LO}$	O	Data reverse output of L ch.				
10	LO		Data positive output of L ch.	22	ATT (MUTE)	I	Data input for attenuator when controlling the serial. Becomes muting terminal when controlling the parallel. Mute ON at "H".
11	VDA	–	Analog power supply for L ch DA converter.				
12	GNDX	–	Ground of oscillating section.	23	OSCE	I*	System clock control. Stop the system clock at "L".
13	XI	I	Crystal oscillating circuit input.				
14	XO	O	Crystal oscillating circuit output.	24	$\overline{RESET}$	I*	Reset terminal. Reset the Σ Δ circuit at "L" and attenuate data becomes 00 (HEX).
15	VDX	–	Power supply of oscillating section.				
16	GND	–	Ground of logic section.	25	DATA	I	Data input.
17	C	I*	Clock selection. "L" : 256fs , "H" : 384fs	26	BCK		Bit clock input.
18	LZ	O	Digital zero detection output of L ch.	27	LRCK		LR clock input (L ch data at "H").
19	MCK		System clock output.	28	VDD	–	Power supply of the logic section.

EM1 L L H H
EM2 L H L H
Mode 44.1 OFF 48 32 (kHz)

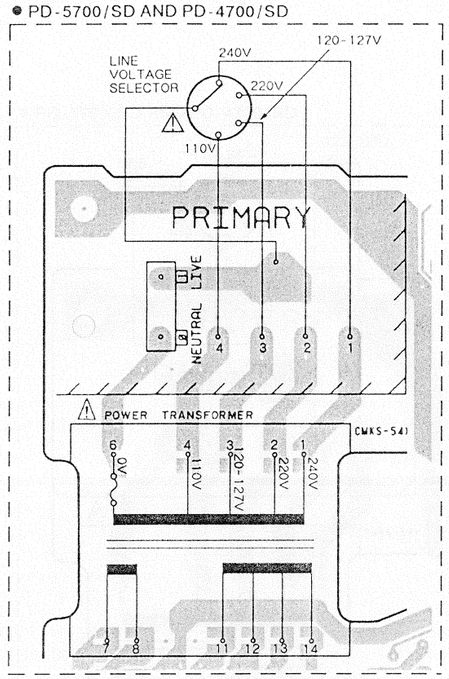
I* : Input terminals with pull-up resistor.

2.5 P.C. BOARD PATTERN

P.C.B. pattern diagram Indication	Corresponding part symbol	Part name
		Transistor
		FET
		Diode
		Zenner diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
		Styrol capacitor
		Electrolytic capacitor (Non polarized)
		Electrolytic capacitor (Noiseless)
		Electrolytic capacitor (Polarized)
		Electrolytic capacitor (Polarized)
		Power capacitor
		Semi-fixed resistor
		Resistor array
		Resistor
		Resonator
		Thermistor

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ○ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.

● PD-5700/SD AND PD-4700/SD



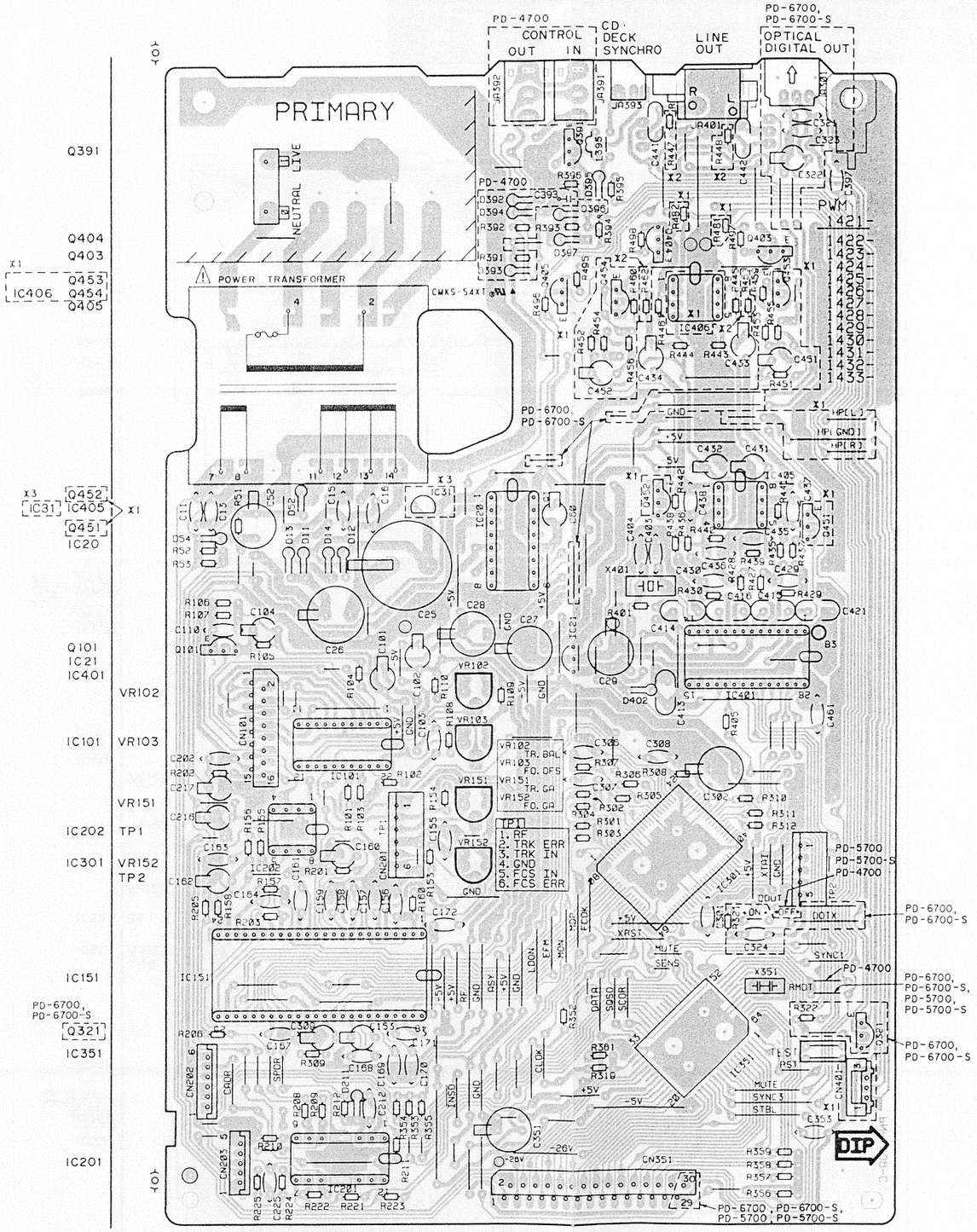
＊1 : EXCEPT PD-4700/SD

＊2

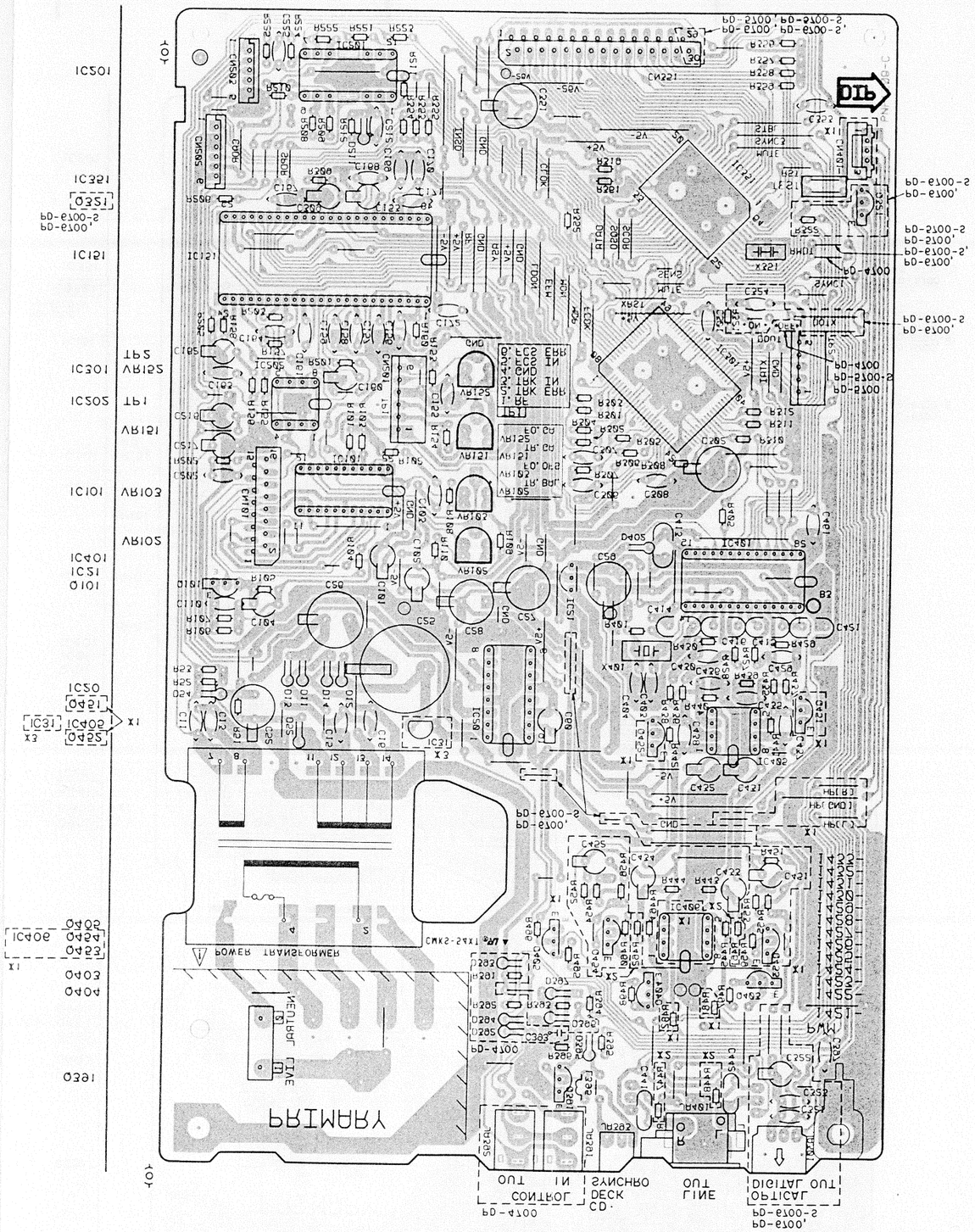
	R447,R448,R461,R462
PD-4700/SD	SHORT (JUMPER)
OTHERS	USED

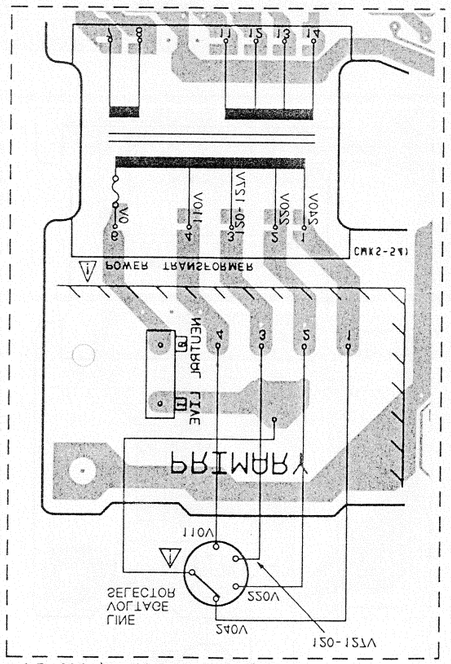
＊3

	IC31
PD-5700/SD PD-4700/SD	SHORT (JUMPER)
OTHERS	USED



PD-S200\WEMWXJ,PD-A200\WEMWXJ,UBXJ,SD,VLW
PD-S200\WEMWXJ,UBXJ,SD,VLW
PD-S300\WEMWXJ,PD-A300-S\WEMWXJ

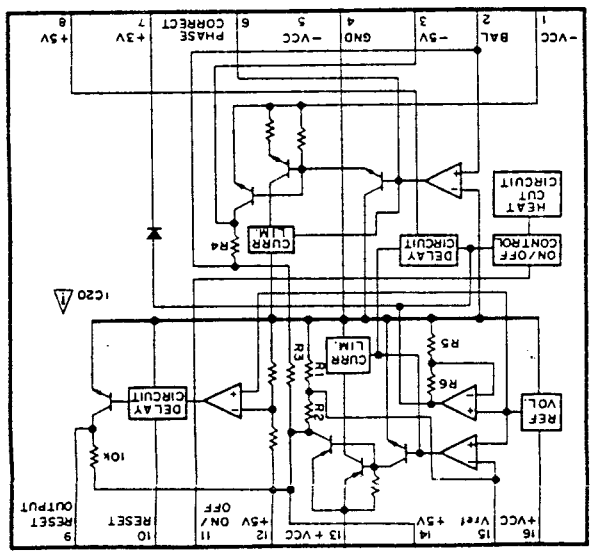




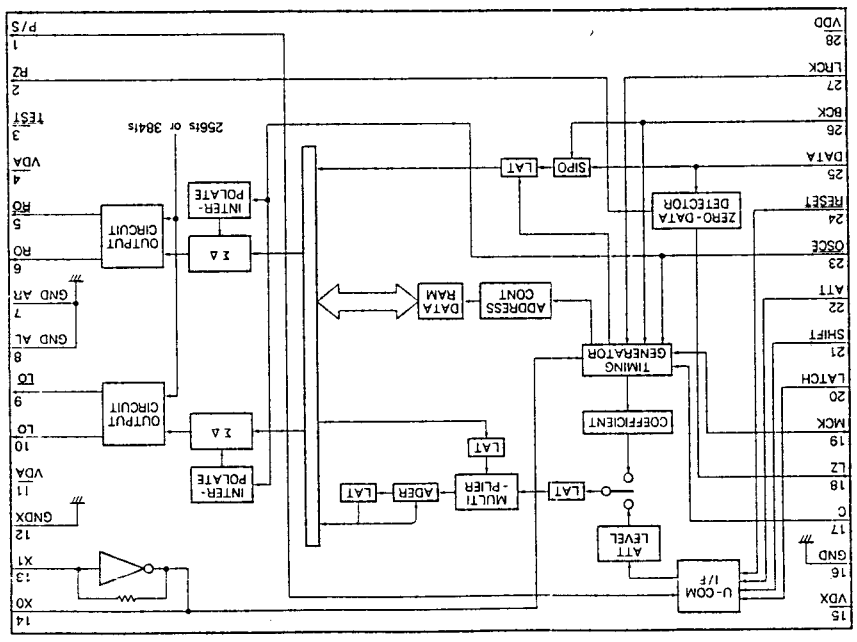
* 1 : EXCEPT PD-A100\SD		
* 2	3AAR,1AAR,8AAR,7AAR	
	SHORT(NUMBER) PD-A100\SD-PD	OTHERS
* 3	IC31	
	SHORT PD-S200\SD-PD (NUMBER) PD-A100\SD-PD	USED
		OTHERS

This P.C.B. connection diagram is viewed from the foil side.

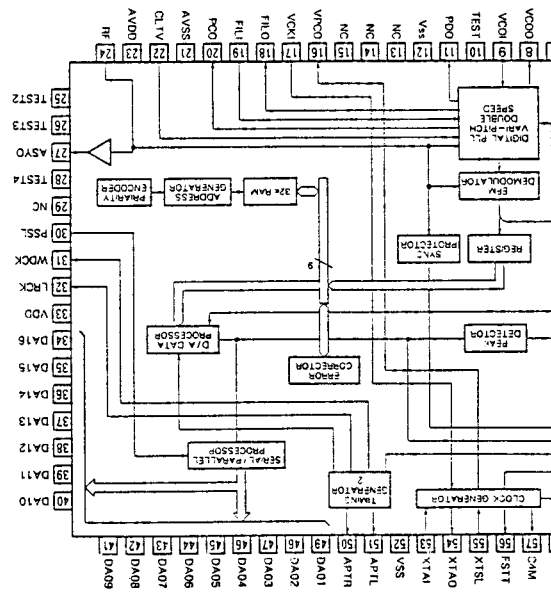
P.C.B. BOARD PATTERN



IC20:M5298P



IC401:PD2026A



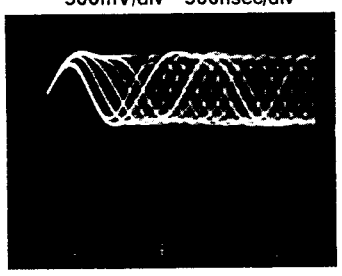
6. SCHEMATIC DIAGRAM

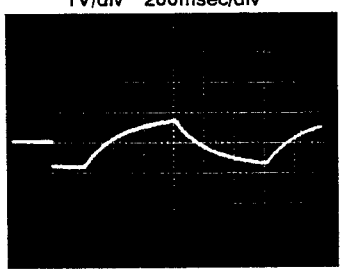
6.1 Wave Forms

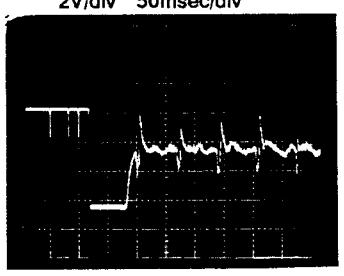
Note: The encircled numbers denote measuring in the schematic diagram.

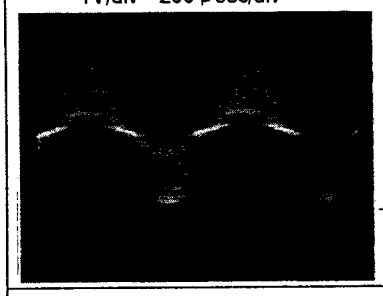
*1 50T-JUMP: After switching to the pause mode, press the manual search key.

*2 FOCUS-IN: Press the key without loading a disc.

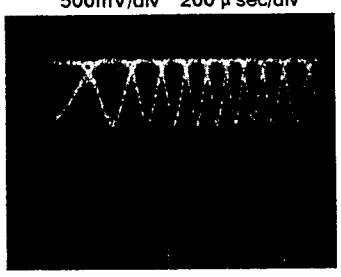
② TP1 - Pin 1:PLAY MODE (RF)
500mV/div 500nsec/div


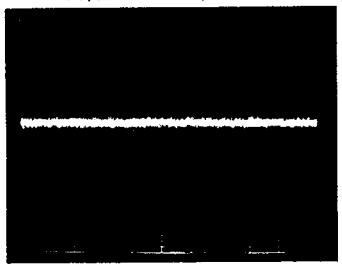
⑤ IC202 - Pin 1:FOCUS-IN (*2) MODE (FODR)
1V/div 200msec/div


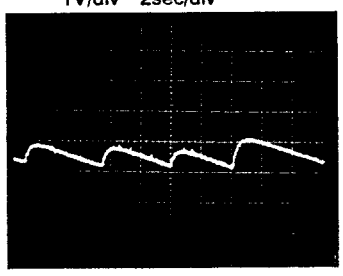
⑦ IC201 - Pin 3:TRACK SEARCH MODE (SPDR)
2V/div 50msec/div


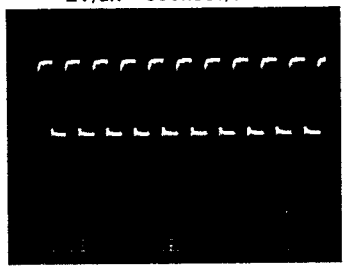
⑪ IC401 - Pin 10:PLAY MODE (1kHz) (LO) (D/A DATA OUT)
1V/div 200 μ sec/div


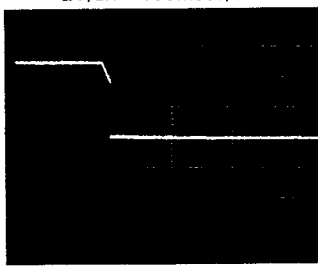
⑫ IC20 - Pin 9:POWER SWITC (RST)
2V/div 100msec/div

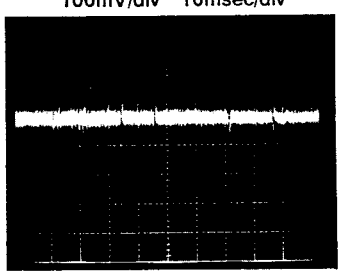
② TP1 - Pin 1:TRACK SEARCH MODE (RF)
500mV/div 200 μ sec/div


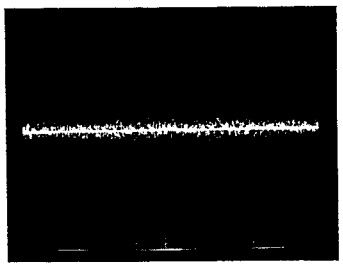
⑤ IC202 - Pin 1:PLAY MODE (FODR)
1V/div 1msec/div


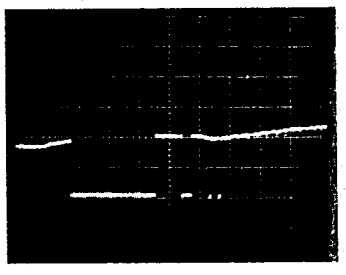
⑧ IC201 - Pin 4:PLAY MODE (CADR)
1V/div 2sec/div


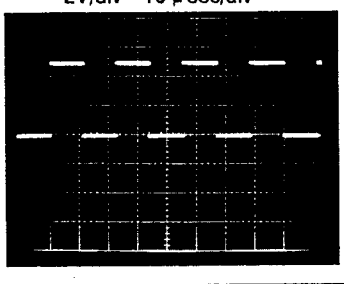
⑯ IC301 - Pin 35:PLAY MODE (1kHz) (BCLK)
2V/div 500nsec/div


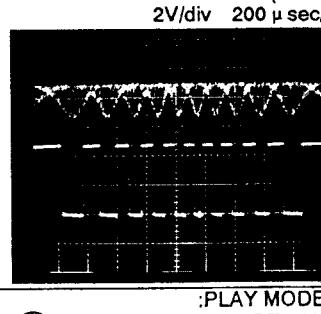
⑫ IC20 - Pin 9:POWER SWITC (RST)
2V/div 100msec/div


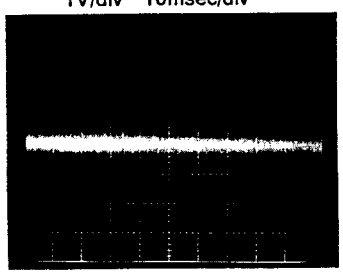
③ TP1 - Pin 6:PLAY MODE (FOER)
100mV/div 10msec/div


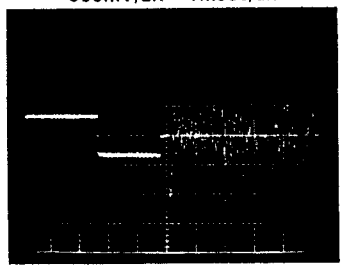
⑥ IC202 - Pin 3:PLAY MODE (TRDR)
500mV/div 1msec/div


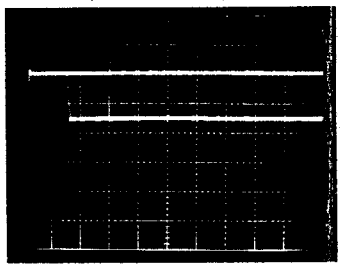
⑧ IC201 - Pin 4:TRACK SEARCH MODE (CADR)
2V/div 200msec/div


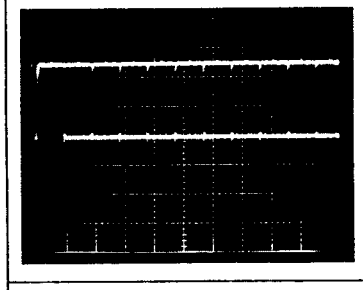
⑱ IC301 - Pin 32:PLAY MODE (1kHz) (LRCK)
2V/div 10 μ sec/div


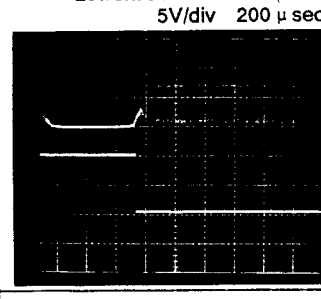
⑬ :TRACK SEARCH MO
Upper:TP1 - Pin 1 (RF) 1V/
Lower:IC151 - Pin 35 (MIRR
2V/div 200 μ sec


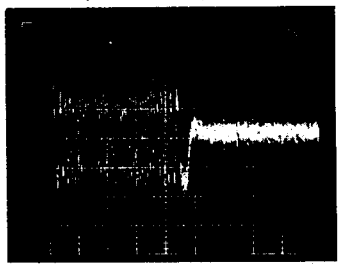
④ TP1 - Pin 2:PLAY MODE (TRER)
1V/div 10msec/div


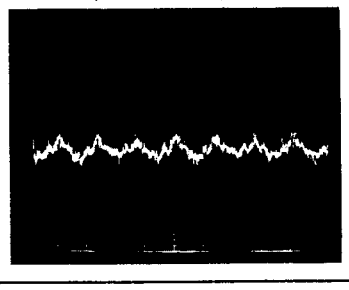
⑥ IC202 - Pin 3:50T-JUMP (*1) MODE (TRDR)
500mV/div 1msec/div


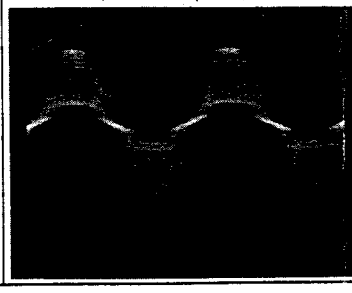
⑨ IC151 - Pin 38:PLAY MODE (EFM)
2V/div 500nsec/div


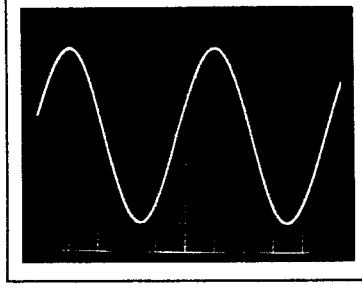
⑲ IC301 - Pin 34:PLAY MODE (1kHz) (DATA)
2V/div 500nsec/div


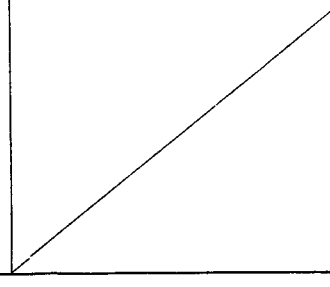
⑭ :PLAY MODE
Upper:TP1 - Pin 1 (RF) 1V/
Lower:IC151 - Pin 36 (DFC
5V/div 200 μ sec


④ TP1 - Pin 2:50T-JUMP (*1) MODE (TRER)
1V/div 1msec/div


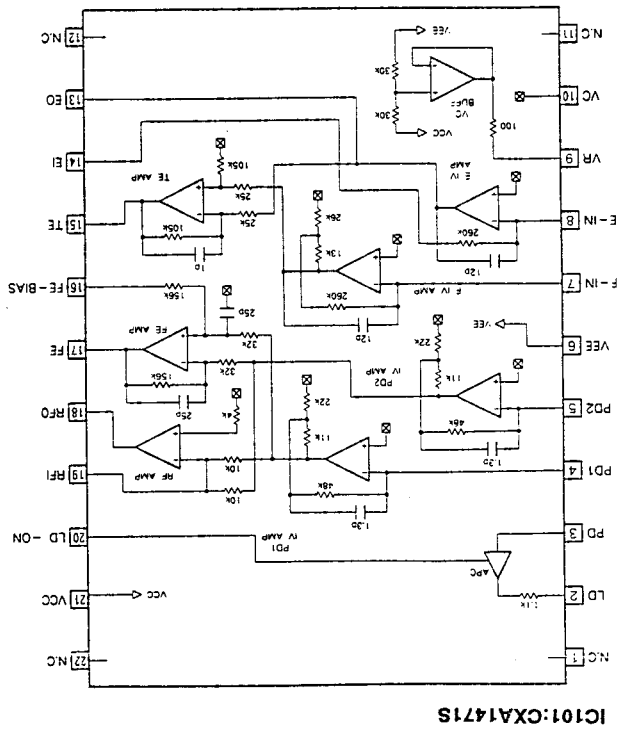
⑦ IC201 - Pin 3:PLAY MODE (SPDR)
1V/div 50msec/div


⑩ IC401 - Pin 9:PLAY MODE (1kHz) (LO) (D/A DATA OUT)
1V/div 200 μ sec/div


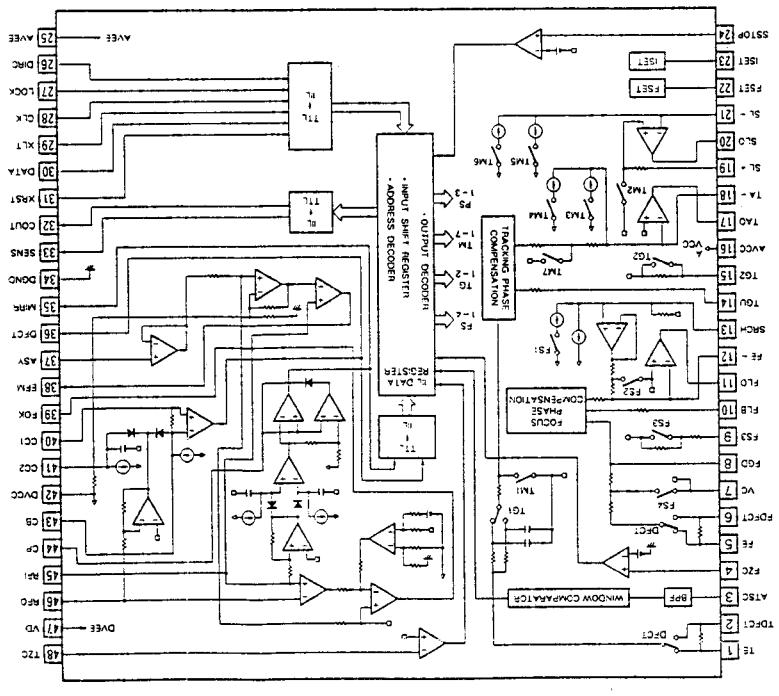
㉑ Pin - OUTPUT:PLAY MODE(1kHz)
1V/div 200 μ sec/div


㉕


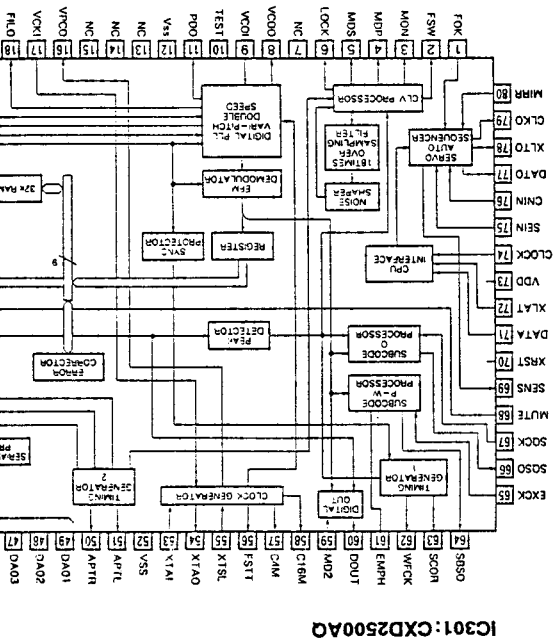
IC101:CXA1471S



IC151:CXA1372S



IC301:CXD2500AQ



IC BLOCK DIAGRAMS

1. RESISTORS :
Indicated in Ω , 1/4W, 1/6W and 1/8W, ± 5% tolerance unless otherwise noted k;k Ω , M;M Ω , (F); ± 1%, (G); ± 2%, (K); ± 10%, (M); ± 20% tolerance.

2. CAPACITORS :
Indicated in capacity(μF)/voltage(V)unless otherwise noted p ; pF. Indication without voltage is 50V except electrolytic capacitor.

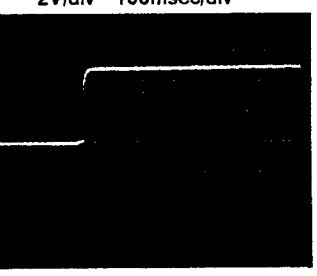
3. VOLTAGE, CURRENT :
▭ ;DC voltage(V)at play state.
⇦ mA ;DC current at play state.
Value in( )is DC current at stop state.

4. OTHERS :
➡ ;Signal route.
⊘ ;Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

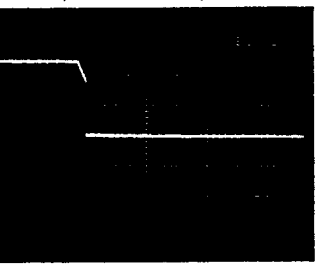
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES : (The underlined indicates the switch position)
SWITCH BOARD ASSEMBLY
S801 : POWER ON — OFF
FUNCTION BOARD ASSEMBLY
(PD - 6700 TYPE)
S701 : PEAK SEARCH
S702 : CHECK
S703 : CLEAR
S704 : PGM
S705 : EDIT
S706 : RANDOM PLAY
S707 : ▷▷ ┐ MANUAL SEARCH
S708 : ◁◁ ┘
S709 : STOP(□)
S710 : PLAY(▷)
S711 : ▷▷| ┐ TRACK SEARCH
S712 : |◁◁ ┘
S713 : PAUSE(▯▯)
S714 : 17 ┐
S715 : 18 │
S716 : 19 │
S717 : 20 │
S718 : 14 │ TRACK NUMBER
S719 : 15 │
S720 : 16 │
S721 : 11 │
S722 : 12 │
S723 : 13 ┘
S724 : OPEN/CLOSE(⏏)
S725 : HI - LITE SCAN
S726 : REPEAT
S727 : TIME
S728 : 10 ┐
S729 : 9 │
S730 : 8 │
S731 : 7 │
S732 : >20 │ TRACK NUMBER
S733 : 6 │
S734 : 5 │
S735 : 4 │
S737 : 3 │
S738 : 2 │
S739 : 1 ┘

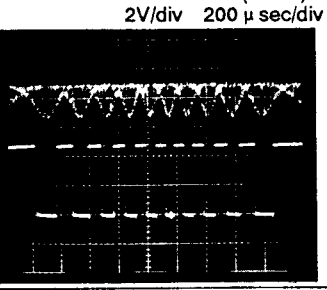
FUNCTION BOARD ASSEMBLY
(PD - 5700 AND PD4700 TYPES)
S701 : PEAK SEARCH
S702 : CHECK
S703 : CLEAR
S704 : PGM
S705 : EDIT
S706 : RANDOM PLAY
S707 : ▷▷ ┐ MANUAL SEARCH
S708 : ◁◁ ┘
S709 : STOP(□)
S710 : PLAY(▷)
S711 : ▷▷| ┐ TRACK SEARCH
S712 : |◁◁ ┘
S713 : PAUSE(▯▯)
S724 : OPEN/CLOSE(⏏)
S725 : HI - LITE SCAN
S726 : REPEAT
S727 : TIME
S728 : 10 ┐
S729 : 9 │
S730 : 8 │
S731 : 7 │
S732 : >20 │ TRACK NUMBER
S733 : 6 │
S734 : 5 │
S735 : 4 │
S736 : +10 │
S737 : 3 │
S738 : 2 │
S739 : 1 ┘

(22) IC20 - Pin 9:POWER SWITCH - ON (RST)
2V/div 100msec/div


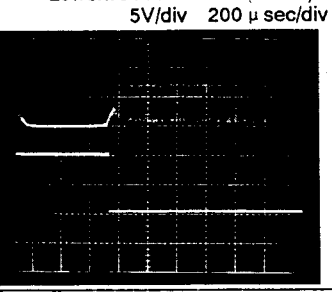
(26)

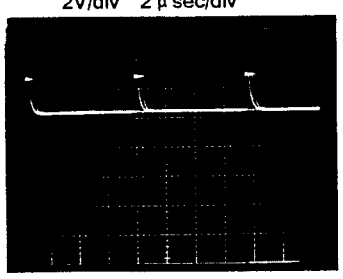
(22) IC20 - Pin 9:POWER SWITCH - OFF (RST)
2V/div 100msec/div


(27)

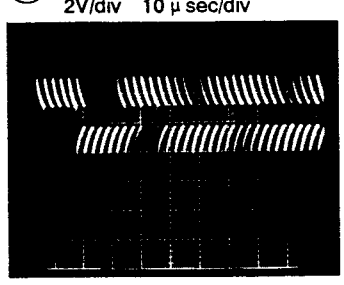
(23) :TRACK SEARCH MODE
Upper:TP1 - Pin 1 (RF) 1V/div
Lower:IC151 - Pin 35 (MIRR)
2V/div 200 μ sec/div


(28)

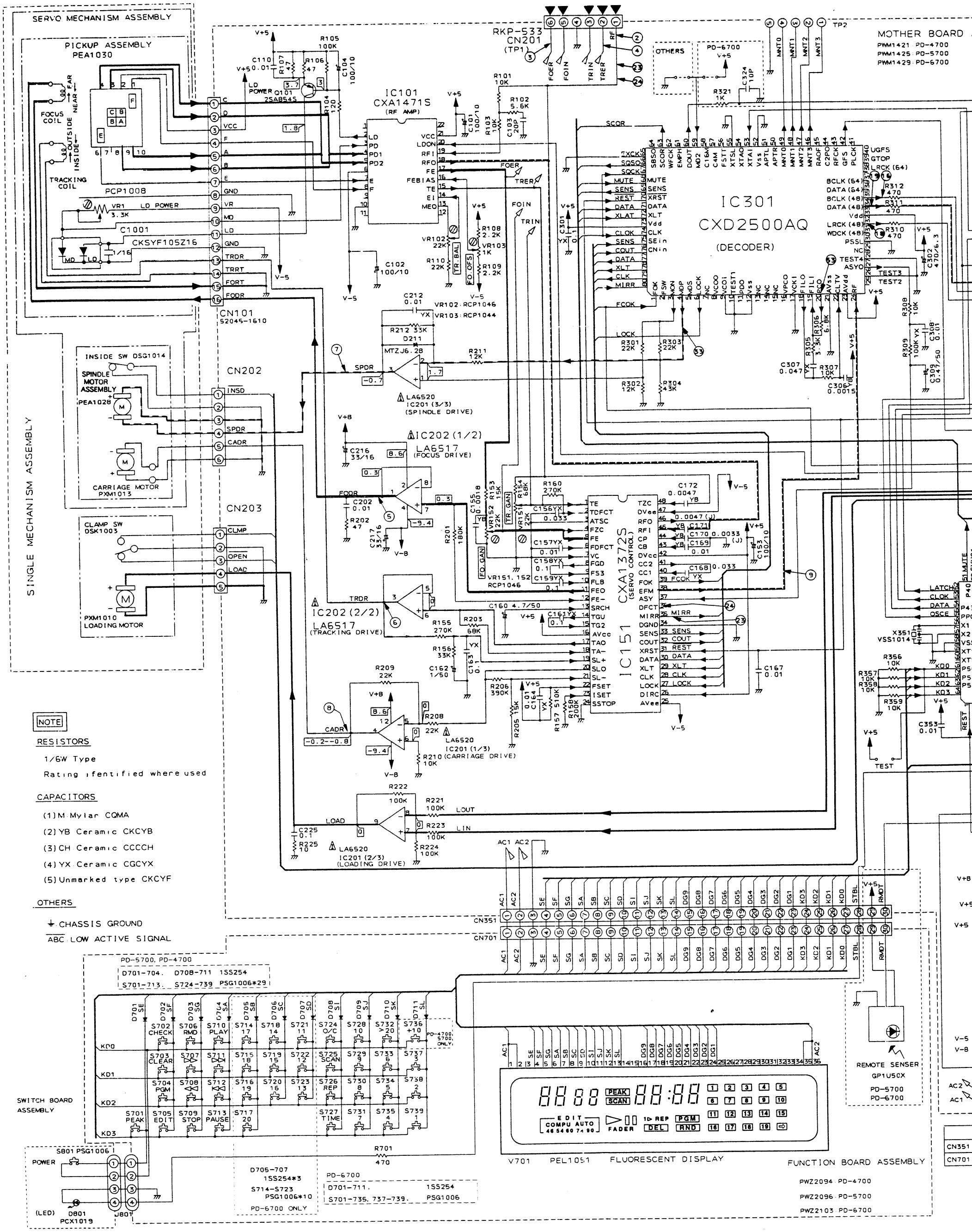
(24) :PLAY MODE
Upper:TP1 - Pin 1 (RF) 1V/div
Lower:IC151 - Pin 36 (DFCT)
5V/div 200 μ sec/div


(33) IC301 - Pin 4:PLAY MODE
(MDP)
2V/div 2 μ sec/div


(25)

(53) IC301 - Pin 20:PLAY MODE
(PCO)
2V/div 10 μ sec/div


6.2 SCHEMATIC DIAGRAM



NOTE

RESISTORS

1/6W Type

Rating ifentified where used

CAPACITORS

(1) M Mylar CQMA

(2) YB Ceramic CKCYB

(3) CH Ceramic CCCCH

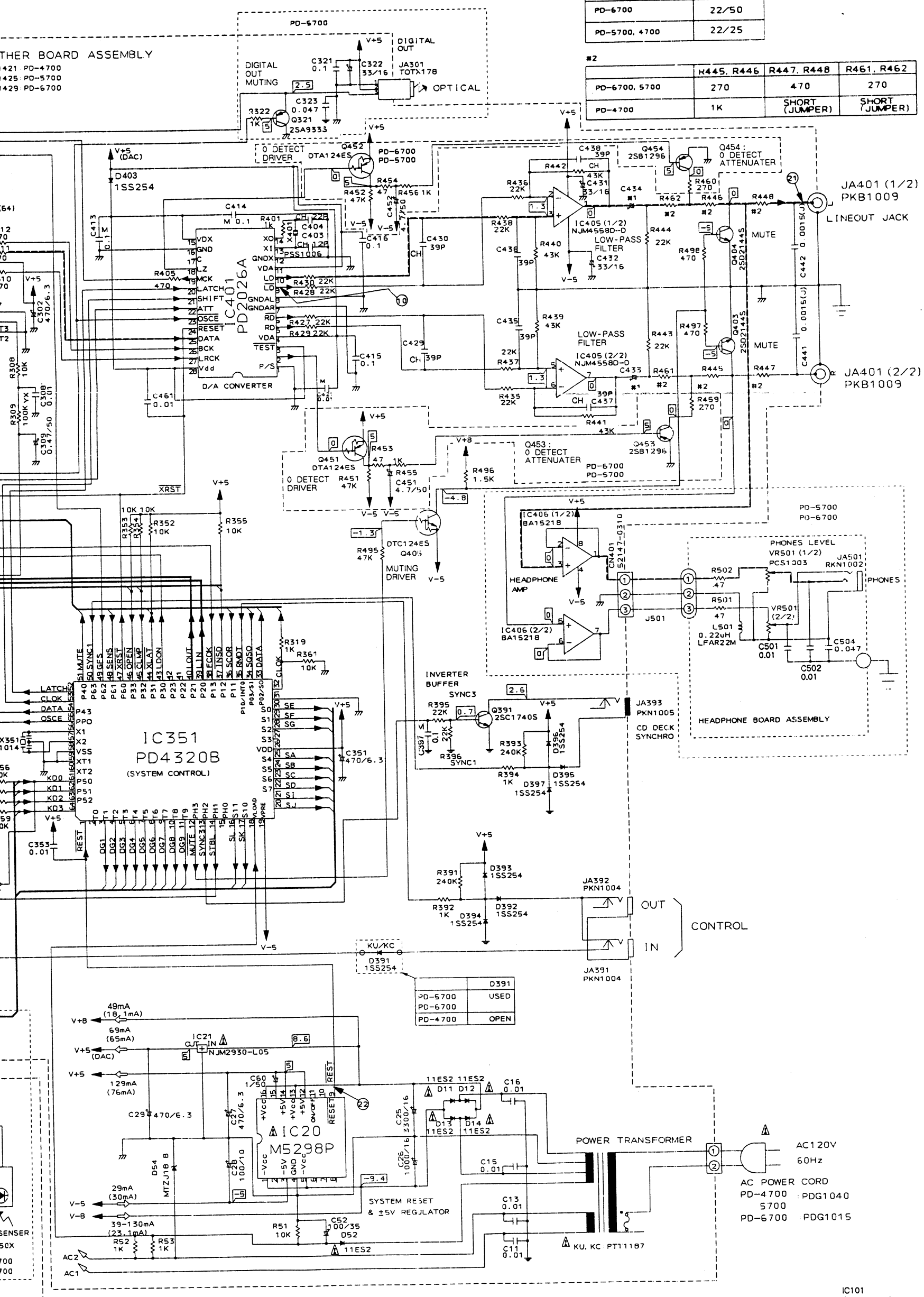
(4) YX Ceramic CGCYX

(5) Unmarked type CKCYF

OTHERS

⏚ CHASSIS GROUND

$\overline{ABC}$ LOW ACTIVE SIGNAL



#1

	C433, C434
PD-6700	22/50
PD-5700, 4700	22/25

#2

	R445, R446	R447, R448	R461, R462
PD-6700, 5700	270	470	270
PD-4700	1K	SHORT (JUMPER)	SHORT (JUMPER)

	PD-4700	PD-5700, 6700
CN351	9602S-28C	9602S-30C
CN701	9602S-28F	9602S-30F

IC151 (CXA1372S)

Pin No.	Voltage	Pin No.	Voltage
1	0	25	-5
2	0	26	5
3	0	27	5
4	0	28	5
5	0	29	5
6	0	30	5
7	0	31	5
8	0	32	0
9	0	33	5
10	0	34	0
11	1	35	0
12	0	36	N. C.
13	0.2	37	2.5
14	0	38	2.5
15	0	39	5
16	5	40	-1.5
17	0	41	-1.7
18	0	42	5
19	0	43	-0.7
20	0.2-0.8	44	-1.6
21	0	45	0
22	-4	46	0.8
23	1.3	47	-5
24	0	48	0

IC301 (CXD2500AQ)

Pin No.	Voltage	Pin No.	Voltage
1	5	42	5
2	N. C.	43	N. C.
3	5	44	N. C.
4	2.6	45	N. C.
5	N. C.	46	4.4
6	5	47	0
7	N. C.	48	0
8	N. C.	49	0-0.3
9	0	50	N. C.
10	0	51	N. C.
11	N. C.	52	0
12	0	53	2.5
13	N. C.	54	N. C.
14	N. C.	55	0
15	N. C.	56	N. C.
16	N. C.	57	N. C.
17	0	58	N. C.
18	2.5	59	5:PD-6700
19	2.4		0:Others
20	2.4	60	0:PD-6700
21	0		N. C. :Others
22	2.5	61	N. C.
23	5	62	N. C.
24	2.5	63	N. C.
25	N. C.	64	N. C.
26	0	65	0
27	2.5	66	3.3-4.6
28	N. C.	67	5
29	0	68	0
30	N. C.	69	2.1-3
31	1.3-2.2	70	5
32	2.5	71	5
33	5	72	5
34	2.5	73	5
35	N. C.	74	5
36	N. C.	75	5
37	N. C.	76	0
38	N. C.	77	5
39	N. C.	78	5
40	N. C.	79	5
41	N. C.	80	0

IC351 (PD4320B)

Pin No.	Voltage	Pin No.	Voltage
1	5	33	5
2	N. C.	34	3.3-4.7
3	-24- -24.3	35	5
4	-24- -24.3	36	0
5	-24- -24.3	37	5
6	-24- -24.3	38	5
7	-24- -24.3	39	0
8	-24- -24.3	40	0
9	-24- -24.3	41	N. C.
10	-24- -24.3	42	N. C.
11	-24- -24.3	43	5
12	5	44	5
13	5	45	0
14	0	46	5
15	N. C.	47	5
16	-23.8	48	2.1-3
17	-9.1 - -9.3	49	5
18	-26	50	5
19	-5	51	0
20	1.2	52	5
21	1.1	53	5
22	-9- -12	54	0
23	0.2-0.8	55	5
24	0.6-1.1	56	2.5
25	0	57	2.5
26	N. C.	58	0
27	0.2-0.4	59	0
28	-2- -3.3	60	N. C.
29	-14- -17	61	0
30	-11.5- -17.3	62	0
31	0	63	0
32	5	64	0

IC101 (CXA1471S)

Pin No.	Voltage	Pin No.	Voltage
1	N. C.	12	N. C.
2	2.9	13	-0.9
3	-4.7	14	-0.7
4	0	15	0
5	0	16	0
6	-5	17	0
7	0	18	0.8
8	0	19	0
9	N. C.	20	5
10	0	21	5
11	N. C.	22	N. C.

IC401 (PD2026A)

Pin No.	Voltage	Pin No.	Voltage
1	0	15	5
2	0	16	0
3	5	17	N. C.
4	5	18	0
5	2.4	19	2
6	2.6	20	5
7	0	21	5
8	0	22	5
9	2.6	23	5
10	2.4	24	5
11	5	25	2.4
12	0	26	2.4
13	2.4	27	2.4
14	2.4	28	5

7. P.C.BOARDS CONNECTION DIAGRAM

	D391
PD-6700, PD-5700	USED
PD-4700	OPEN

MOTHER BOARD ASSSEMBLY
(PD-6700 : PWM1429)
(PD-5700 : PWM1425)
(PD-4700 : PWM1421)

*1: PD-6700,PD-5700 TYPES

*2

	R447,R448 R461,R462
PD-6700, PD-5700	USED
PD-4700	SHORT (JUMPER)

IC301 (CXD2500AQ)

Pin No.	Voltage	Pin No.	Voltage
1	5	42	5
2	N. C.	43	N. C.
3	5	44	N. C.
4	2.6	45	N. C.
5	N. C.	46	4.4
6	5	47	0
7	N. C.	48	0
8	N. C.	49	0-0.3
9	0	50	N. C.
10	0	51	N. C.
11	N. C.	52	0
12	0	53	2.5
13	N. C.	54	N. C.
14	N. C.	55	0
15	N. C.	56	N. C.
16	N. C.	57	N. C.
17	0	58	N. C.
18	2.5	59	5:PD-6700
19	2.4		0:Others
20	2.4	60	0:PD-6700
21	0		N. C. :Others
22	2.5	61	N. C.
23	5	62	N. C.
24	2.5	63	N. C.
25	N. C.	64	N. C.
26	0	65	0
27	2.5	66	3.3-4.6
28	N. C.	67	5
29	0	68	0
30	N. C.	69	2.1-3
31	1.3-2.2	70	5
32	2.5	71	5
33	5	72	5
34	2.5	73	5
35	N. C.	74	5
36	N. C.	75	5
37	N. C.	76	0
38	N. C.	77	5
39	N. C.	78	5
40	N. C.	79	5
41	N. C.	80	0

IC351 (PD4320B)

Pin No.	Voltage	Pin No.	Voltage
1	5	33	5
2	N. C.	34	3.3-4.7
3	-24- -24.3	35	5
4	-24- -24.3	36	0
5	-24- -24.3	37	5
6	-24- -24.3	38	5
7	-24- -24.3	39	0
8	-24- -24.3	40	0
9	-24- -24.3	41	N. C.
10	-24- -24.3	42	N. C.
11	-24- -24.3	43	5
12	5	44	5
13	5	45	0
14	0	46	5
15	N. C.	47	5
16	-23.8	48	2.1-3
17	-9.1 - -9.3	49	5
18	-26	50	5
19	-5	51	0
20	1.2	52	5
21	1.1	53	5
22	-9- -12	54	0
23	0.2-0.8	55	5
24	0.6-1.1	56	2.5
25	0	57	2.5
26	N. C.	58	0
27	0.2-0.4	59	0
28	-2- -3.3	60	N. C.
29	-14- -17	61	0
30	-11.5- -17.3	62	0
31	0	63	0
32	5	64	0

SERVO MECHANISM ASSEMBLY

PICKUP ASSEMBLY PEA1030

FOCUS COIL
TRACKING COIL
PCP1008
VR1 LD POWER 3.3K
C1001 CKSYF105Z16 1/16
LMD LD

CN101

SINGLE MECHANISM ASSEMBLY

INSIDE SW DSG1014
SPINDLE MOTOR ASSEMBLY PEA1028
CARRIAGE MOTOR PXM1013

CN202

CLAMP SW OSK1003
PXM1010 LOADING MOTOR

CN203

AC 120V 60Hz
NEUTRAL LIVE
POWER TRANSFORMER
CMKS-54XT

PRIMARY

Q391
Q404
Q403
Q453
IC406
Q454
Q405
Q452
IC405
Q451
IC20
Q101
IC21
IC401
VR102
IC101
VR103
VR151
IC202
TP1
VR152
IC301
TP2
IC151
Q321
IC351
IC201

CONTROL OUT IN
CD DECK SYNCHRO
LINE OUT
PD-6700 TYPE OPTICAL DIGITAL OUT

PWM 1421

PD-6700 TYPE

PD-5700, PD-4700 TYPES

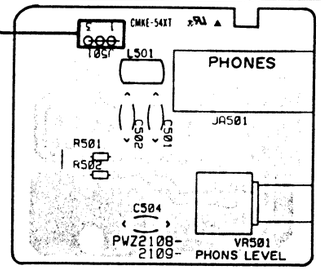
PD-[illegible] TYPE

PD-6[illegible] TYPE

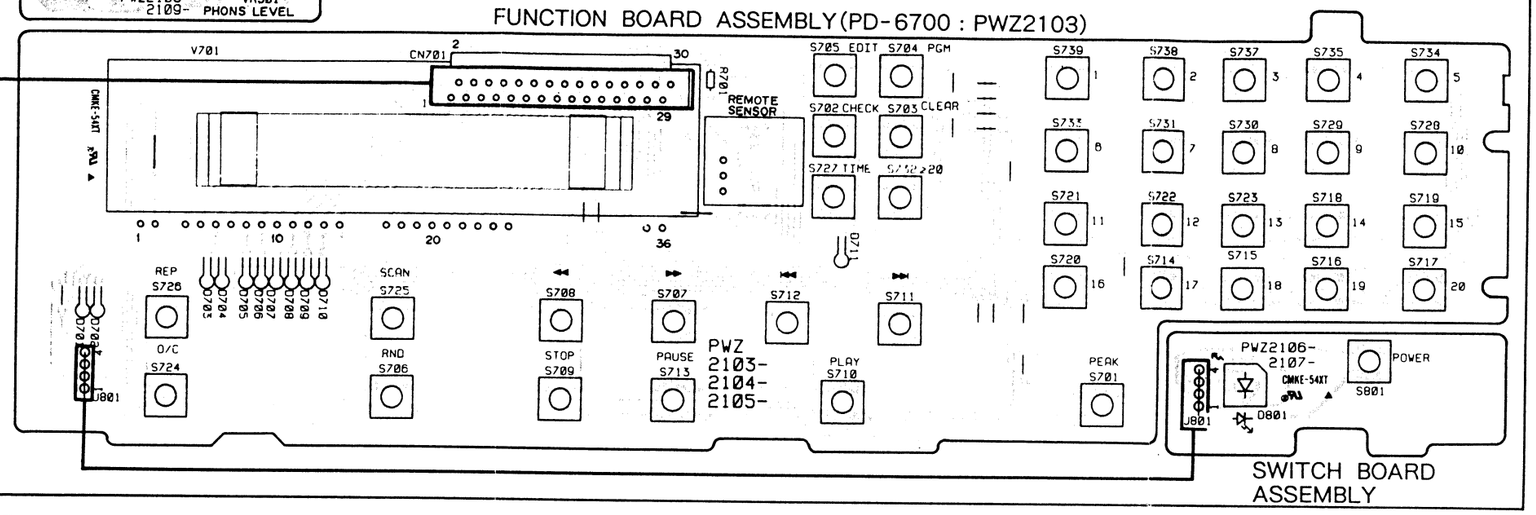
DIP

● PD-6700 TYPE

HEADPHONE BOARD ASSEMBLY



FUNCTION BOARD ASSEMBLY (PD-6700 : PWZ2103)

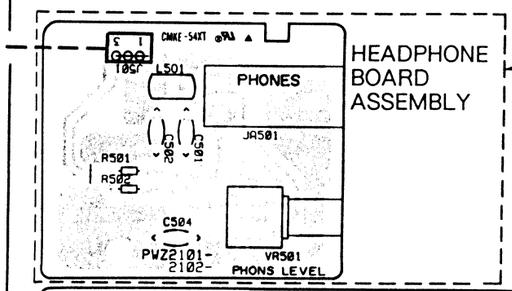


SWITCH BOARD ASSEMBLY

● PD-5700 AND PD-4700 TYPES

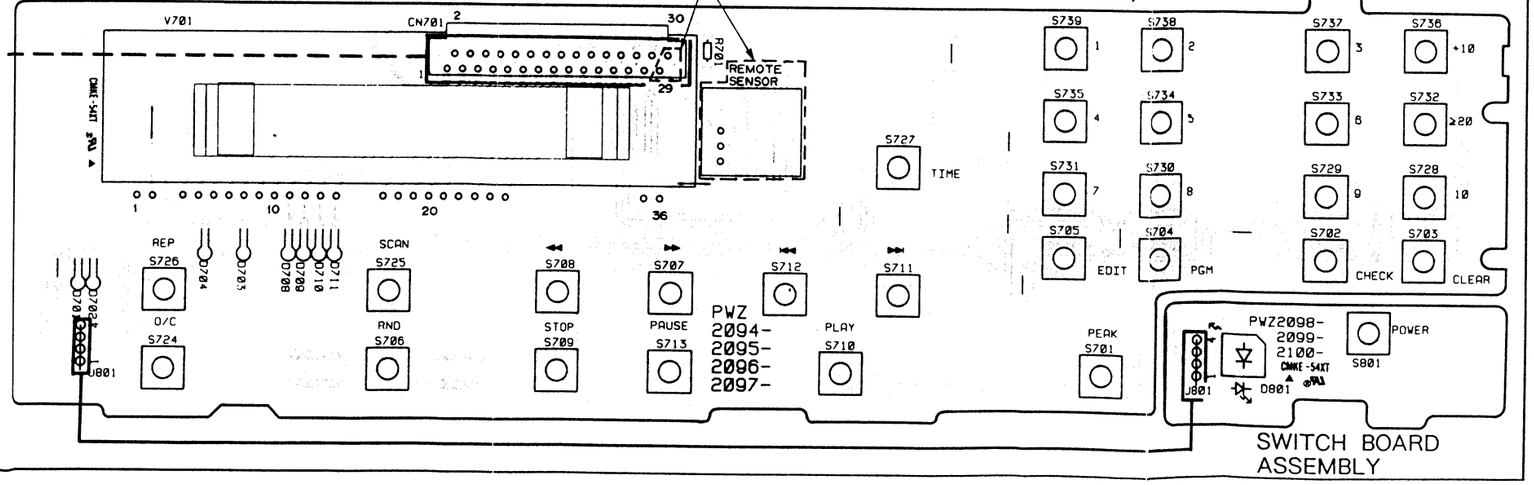
HEADPHONE BOARD ASSEMBLY

PD-5700 TYPE



PD-5700 TYPE

FUNCTION BOARD ASSEMBLY
(PD-5700 : PWZ2096)
(PD-4700 : PWZ2094)

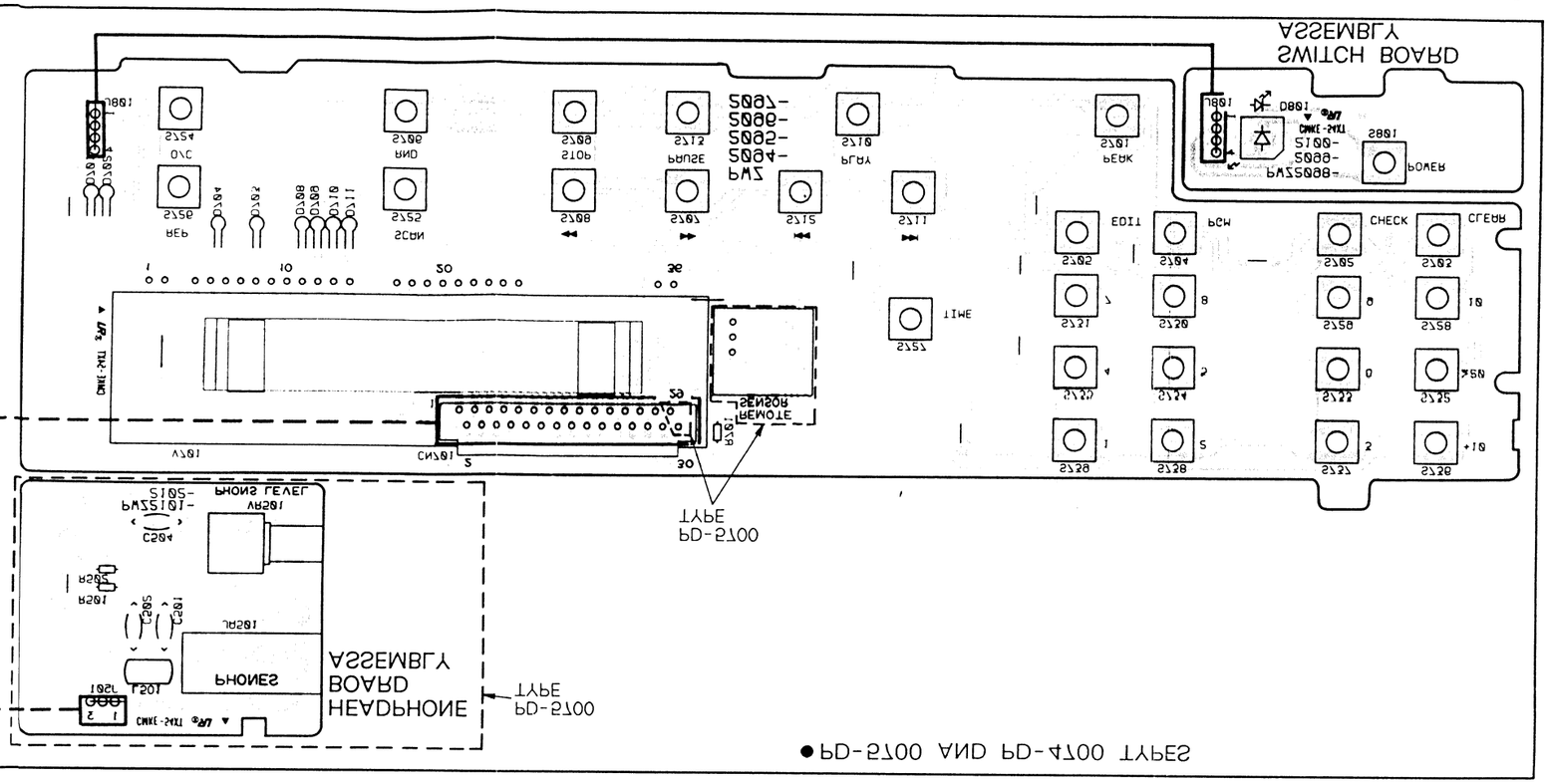


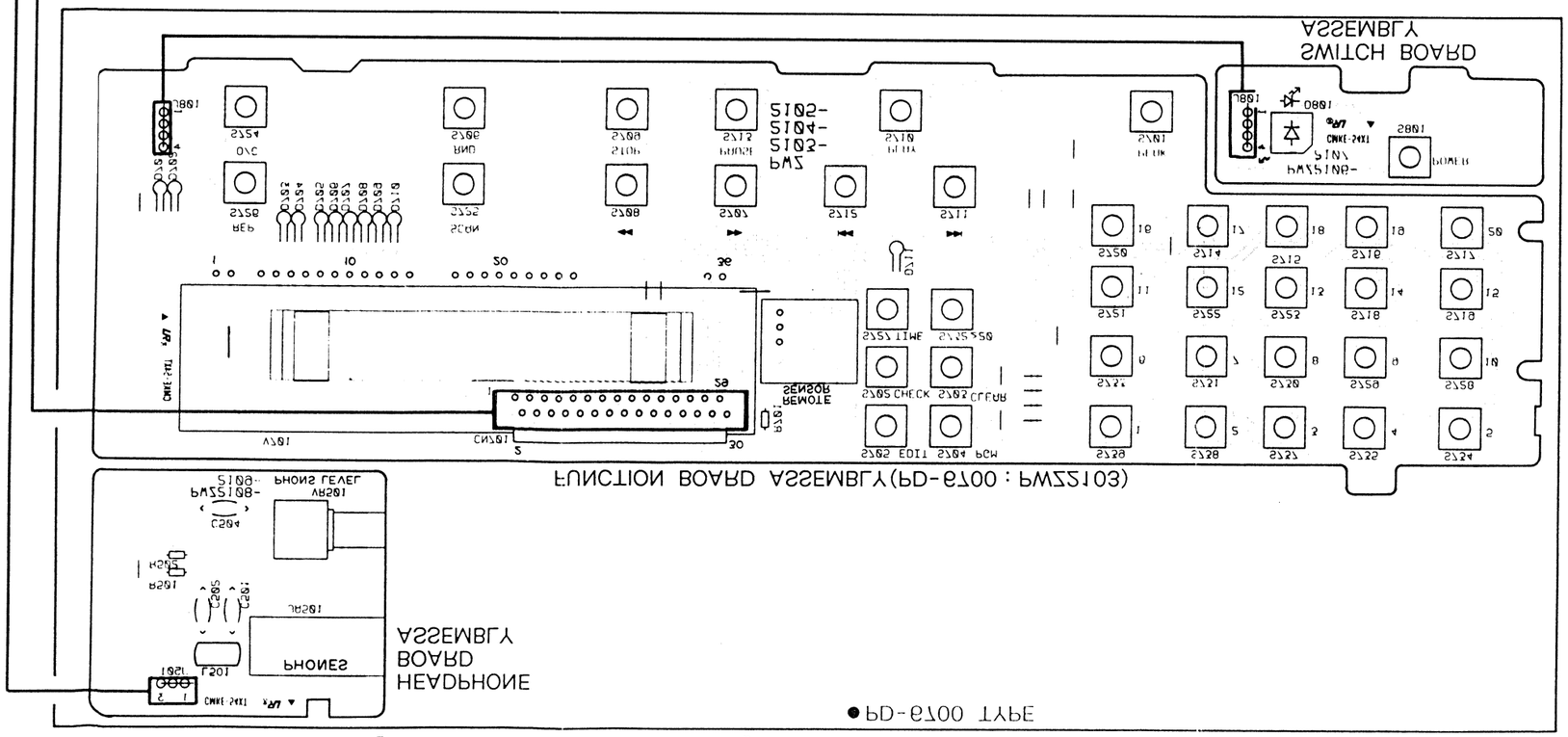
SWITCH BOARD ASSEMBLY

P.C.B. pattern diagram indication	Corresponding part symbol	Part name	P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor			Ceramic capacitor
		FET			Mylar capacitor
		Diode			Styrol capacitor
					Electrolytic capacitor (Non polarized)
					Electrolytic capacitor (Noiseless)
		Zenner diode			Electrolytic capacitor (Polarized)
					Electrolytic capacitor (Polarized)
		LED			Power capacitor
		Varactor			Semi-fixed resistor
		Tact switch			Resistor array
					Resistor
		Inductor			
		Coil			Resonator
		Transformer			Thermistor
		Filter			

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with O shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.

This P. C. B. connection diagram is viewed from the foil side.





7. P.C.BOARDS CONNECTION DIAGRAM

*1: PD-6700,PD-5700 TYPES

*2

	R447,R448 R461,R462
PD-6700, PD-5700	USED
PD-4700	SHORT (JUMPER)

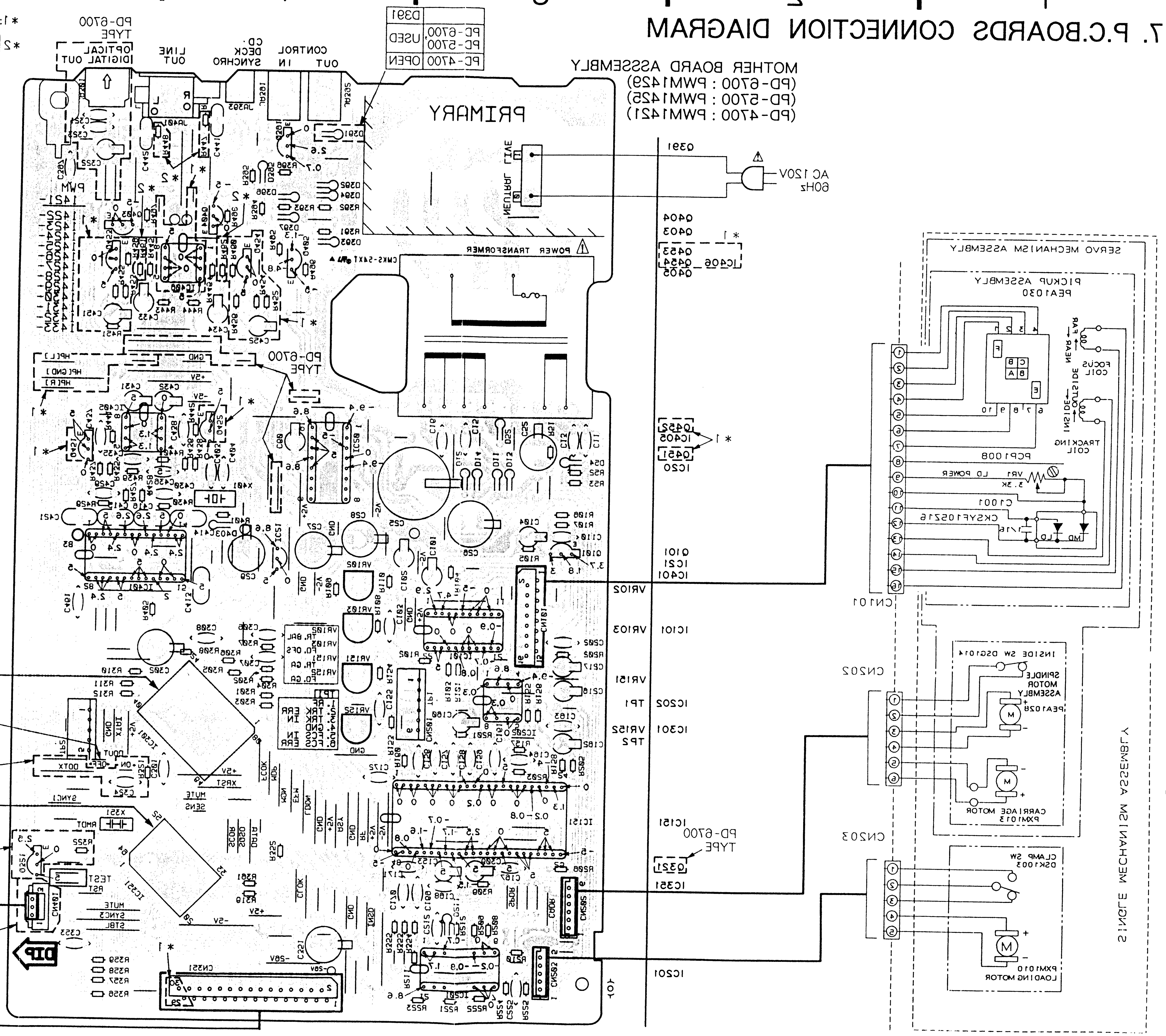
	D391
PC-6700, PC-5700	USED
PC-4700	OPEN

IC351 (PD4320B)

Pin No.	Voltage	Pin No.	Voltage
1	5	33	5
2	N.C.	34	3.3-4.7
3	-24--24.3	35	5
4	-24--24.3	36	0
5	-24--24.3	37	5
6	-24--24.3	38	5
7	-24--24.3	39	0
8	-24--24.3	40	0
9	-24--24.3	41	N.C.
10	-24--24.3	42	N.C.
11	-24--24.3	43	5
12	5	44	5
13	5	45	0
14	0	46	5
15	N.C.	47	5
16	-23.8	48	2.1-3
17	-9.1--9.3	49	5
18	-26	50	5
19	-5	51	0
20	1.2	52	5
21	1.1	53	5
22	-9--12	54	0
23	0.2-0.8	55	5
24	0.6-1.1	56	2.5
25	0	57	2.5
26	N.C.	58	0
27	0.2-0.4	59	0
28	-2--3.3	60	N.C.
29	-14--17	61	0
30	-11.5--17.3	62	0
31	0	63	0
32	5	64	0

IC301 (CXD2500AO)

Pin No.	Voltage	Pin No.	Voltage
1	5	42	5
2	N.C.	43	N.C.
3	5	44	N.C.
4	2.6	45	N.C.
5	N.C.	46	4.4
6	5	47	0
7	N.C.	48	0
8	N.C.	49	0-0.3
9	0	50	N.C.
10	0	51	N.C.
11	N.C.	52	0
12	0	53	2.5
13	N.C.	54	N.C.
14	N.C.	55	0
15	N.C.	56	N.C.
16	N.C.	57	N.C.
17	0	58	N.C.
18	2.5	59	5:PD-6700
19	2.4		0:Others
20	2.4	60	0:PD-6700
21	0		N.C.:Others
22	2.5	61	N.C.
23	5	62	N.C.
24	2.5	63	N.C.
25	N.C.	64	N.C.
26	0	65	0
27	2.5	66	3.3-4.6
28	N.C.	67	5
29	0	68	0
30	N.C.	69	2.1-3
31	1.3-2.2	70	5
32	2.5	71	5
33	5	72	5
34	2.5	73	5
35	N.C.	74	5
36	N.C.	75	5
37	N.C.	76	0
38	N.C.	77	5
39	N.C.	78	5
40	N.C.	79	5
41	N.C.	80	0



	CN351,CN701
PD-6700, PD-5700	30PIN
PD-4700	28PIN

8. P. C. B's PARTS LIST

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits(any digit apart from 0), such as 560 ohm and 47k ohm(tolerance is shown by J=5%, and K=10%).

560 Ω → 56 × 10¹ → 561 ..... RD1/4PS 5 6 1 J
47k Ω → 47 × 10³ → 473 ..... RD1/4PS 4 7 3 J
0.5 Ω → 0R5 ..... RN2H 0 R 5 K
1 Ω → 010 ..... RS1P 0 1 0 K

Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).

5.62k Ω → 562 × 10¹ → 5621 ..... RN1/4SR 5 6 2 1 F

Mark	No.	Description	Part No.
Switch Board Assembly			
SEMICONDUCTOR			
	D801	LED	PCX1019
SWITCH			
	S801	SWITCH (POWER)	PSG1006
Headphone Board Assembly (PD-6700 and PD-5700 types)			
COIL			
	L501		LFAR22M
CAPACITORS			
	C501, 502	CERAMIC CAPACITOR	CKCYF103Z50
	C504	CERAMIC CAPACITOR	CKCYF473Z50
RESISTORS			
	VR501	VARIABLE RESISTOR (PHONES LEVEL)	PCS1003
	R501, 502	CARBON FILM RESISTOR	RD1/6PM470J
OTHERS			
	JA501	JACK (PHONES)	RKN1002
◉Mother Board Assembly (PWM1429:PD-6700)			
SEMICONDUCTORS			
	IC101	PRE AMP IC	CXA1471S
	IC151	SERVO IC	CXA1372S
⚠	IC20	REGULATOR IC	M5298P
⚠	IC201	POWER OP-AMP, IC	LA6520
⚠	IC202	POWER OP-AMP, IC	LA6517
	IC21	REGULATOR, IC	NJM2930-L05
	IC301	EFM DEMODULATION IC	CXD2500AQ
	IC351	MICROCOMPUTER, IC	PD4320B
	IC401	D/A CONVERTER, IC	PD2026A
	IC405	OP-AMP IC	NJM4558D-D
	IC406	OP-AMP IC	BA15218
	Q101	TRANSISTOR	2SA854S
	Q321	TRANSISTOR	2SA933S
	Q391	TRANSISTOR	2SC1740S
	Q403, 404	TRANSISTOR	2SD2144S
	Q405	TRANSISTOR	DTC124ES
	Q451, 452	TRANSISTOR	DTA124ES
	Q453, 454	TRANSISTOR	2SB1296
⚠	D11-14	DIODE	11ES2
	D211	ZENNER DIODE	MTZJ6.2B
	D391-397	DIODE	1SS254
	D403	DIODE	1SS254
⚠	D52	DIODE	11ES2
	D54	ZENNER DIODE	MTZJ18B
CAPACITORS			
	C101, 102	ELECTR. CAPACITOR	CEAS101M10
	C103	CERAMIC CAPACITOR	CCCCH200J50
	C104	ELECTR. CAPACITOR	CEAS101M10
	C11, 110	CERAMIC CAPACITOR	CKCYF103Z50
	C13, 15	CERAMIC CAPACITOR	CKCYF103Z50
	C153	ELECTR. CAPACITOR	CEAS101M10
	C155	CERAMIC CAPACITOR	CKCYB182K50
	C156	CERAMIC CAPACITOR	CGCYX333K25
	C157	CERAMIC CAPACITOR	CGCYX103K25
	C158, 159	CERAMIC CAPACITOR	CGCYX104K25
	C16	CERAMIC CAPACITOR	CKCYF103Z50
	C160	ELECTR. CAPACITOR	CEAS4R7M50
	C161	CERAMIC CAPACITOR	CGCYX104K25
	C162	ELECTR. CAPACITOR	CEAS010M50
	C163	CERAMIC CAPACITOR	CGCYX104K25
	C164	CERAMIC CAPACITOR	CGCYX103K25
	C167	CERAMIC CAPACITOR	CKCYF103Z50
	C168	CERAMIC CAPACITOR	CGCYX333K25
	C169	CERAMIC CAPACITOR	CGCYX103K25
	C170	CERAMIC CAPACITOR	CKCYB332K50
	C171, 172	CERAMIC CAPACITOR	CKCYB472K50
	C202	CERAMIC CAPACITOR	CKCYF103Z50
	C212	CERAMIC CAPACITOR	CGCYX103K25
	C216, 217	ELECTR. CAPACITOR	CEAS330M16
	C225	CERAMIC CAPACITOR	CGCYX104K25

Mark	No.	Description	Part No.
	C25	ELECTR. CAPACITOR	CEAS332M16
	C26	ELECTR. CAPACITOR	CEAS102M16
	C27	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C28	ELECTR. CAPACITOR	CEAS101M10
	C29	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C301	CERAMIC CAPACITOR	CGCYX104K25
	C302	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C306	CERAMIC CAPACITOR	CKCYB152K50
	C307	CERAMIC CAPACITOR	CGCYX473K25
	C308	CERAMIC CAPACITOR	CGCYX103K25
	C309	ELECTR. CAPACITOR	CEASR47M50
	C321	CERAMIC CAPACITOR	CGCYX104K25
	C322	ELECTR. CAPACITOR	CEAS330M16
	C323	CERAMIC CAPACITOR	CKCYF473Z50
	C324	CERAMIC CAPACITOR	CCCCH100D50
	C351	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C353	CERAMIC CAPACITOR	CKCYF103Z50
	C397	MYLOR FILM CAPACITOR	CQMA104K50
	C403	CERAMIC CAPACITOR	CCCCH120J50
	C404	CERAMIC CAPACITOR	CCCCH220J50
	C413, 414	MYLOR FILM CAPACITOR	CQMA104K50
	C415, 416	AUDIO FILM CAPACITOR	CFTXA104J50
	C421	MYLOR FILM CAPACITOR	CQMA103K50
	C429, 430	CERAMIC CAPACITOR	CCCCH390J50
	C431, 432	ELECTR. CAPACITOR	CEAS330M16
	C433, 434	ELECTR. CAPACITOR	CEAS220M50
	C435-438	CERAMIC CAPACITOR	CCCCH390J50
	C441, 442	PL. STYRENE CAPACITOR	CQSA152J50
	C451, 452	ELECTR. CAPACITOR	CEAS4R7M50
	C461	CERAMIC CAPACITOR	CKCYF103Z50
	C52	ELECTR. CAPACITOR	CEAS101M35
	C60	ELECTR. CAPACITOR	CEAS010M50

RESISTORS

VR102	VR (22kΩ)	RCP1046
VR103	VR (1kΩ)	RCP1044
VR151, 152	VR (22kΩ)	RCP1046
Other resistors		RD1/6PM□□□J

OTHERS

CN101	CONNECTOR	52045-1610
CN351	CONNECTOR	9602S-30C
JA301	OPTICAL OUTPUT JACK	TOTX178
JA391, 392	JACK/12V (CONTROL IN, OUT)	PKN1004
JA393	JACK (CD DECK SYNCHRO)	PKN1005
JA401	JACK (LINE OUT L, R)	PKB1009
X351	CERAMIC RESONATOR (4.19MHz)	VSS1014
X401	XTAL RES (OSC) (16.9344MHz)	PSS1006

Mark	No.	Description	Part No.

◉ Mother Board Assembly (PWM1425:PD-5700)

SEMICONDUCTORS

	IC101	PRE AMP IC	CXA1471S
	IC151	SERVO IC	CXA1372S
⚠	IC20	REGULATOR IC	M5298P
⚠	IC201	POWER OP-AMP, IC	LA6520
⚠	IC202	POWER OP-AMP, IC	LA6517
	IC21	REGULATOR, IC	NJM2930-L05
	IC301	EFM DEMODULATION IC	CXD2500AQ
	IC351	MICROCOMPUTER, IC	PD4320B
	IC401	D/A CONVERTER, IC	PD2026A
	IC405	OP-AMP IC	NJM4558D-D
	IC406	OP-AMP IC	BA15218
	Q101	TRANSISTOR	2SA854S
	Q391	TRANSISTOR	2SC1740S
	Q403, 404	TRANSISTOR	2SD2144S
	Q405	TRANSISTOR	DTC124ES
	Q451, 452	TRANSISTOR	DTA124ES
	Q453, 454	TRANSISTOR	2SB1296
⚠	D11-14	DIODE	11ES2
	D211	ZENNER DIODE	MTZJ6.2B
	D391-397	DIODE	1SS254
	D403	DIODE	1SS254
⚠	D52	DIODE	11ES2
	D54	ZENNER DIODE	MTZJ18B

CAPACITORS

C101, 102	ELECTR. CAPACITOR	CEAS101M10
C103	CERAMIC CAPACITOR	CCCCH200J50
C104	ELECTR. CAPACITOR	CEAS101M10
C11, 110	CERAMIC CAPACITOR	CKCYF103Z50
C13, 15	CERAMIC CAPACITOR	CKCYF103Z50
C153	ELECTR. CAPACITOR	CEAS101M10
C155	CERAMIC CAPACITOR	CKCYB182K50
C156	CERAMIC CAPACITOR	CGCYX333K25
C157	CERAMIC CAPACITOR	CGCYX103K25
C158, 159	CERAMIC CAPACITOR	CGCYX104K25
C16	CERAMIC CAPACITOR	CKCYF103Z50
C160	ELECTR. CAPACITOR	CEAS4R7M50
C161	CERAMIC CAPACITOR	CGCYX104K25
C162	ELECTR. CAPACITOR	CEAS010M50
C163	CERAMIC CAPACITOR	CGCYX104K25
C164	CERAMIC CAPACITOR	CGCYX103K25
C167	CERAMIC CAPACITOR	CKCYF103Z50
C168	CERAMIC CAPACITOR	CGCYX333K25
C169	CERAMIC CAPACITOR	CGCYX103K25
C170	CERAMIC CAPACITOR	CKCYB332K50
C171, 172	CERAMIC CAPACITOR	CKCYB472K50
C202	CERAMIC CAPACITOR	CKCYF103Z50
C212	CERAMIC CAPACITOR	CGCYX103K25
C216, 217	ELECTR. CAPACITOR	CEAS330M16
C225	CERAMIC CAPACITOR	CGCYX104K25
C25	ELECTR. CAPACITOR	CEAS332M16
C26	ELECTR. CAPACITOR	CEAS102M16
C27	ELECTROLYTIC CAPACIT	CEAS471M6R3
C28	ELECTR. CAPACITOR	CEAS101M10
C29	ELECTROLYTIC CAPACIT	CEAS471M6R3

Mark	No.	Description	Part No.
	C301	CERAMIC CAPACITOR	CGCYX104K25
	C302	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C306	CERAMIC CAPACITOR	CKCYB152K50
	C307	CERAMIC CAPACITOR	CGCYX473K25
	C308	CERAMIC CAPACITOR	CGCYX103K25
	C309	ELECTR. CAPACITOR	CEASR47M50
	C351	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C353	CERAMIC CAPACITOR	CKCYF103Z50
	C397	MYLOR FILM CAPACITOR	CQMA104K50
	C403	CERAMIC CAPACITOR	CCCCH120J50
	C404	CERAMIC CAPACITOR	CCCCH220J50
	C413-416	MYLOR FILM CAPACITOR	CQMA104K50
	C421	MYLOR FILM CAPACITOR	CQMA103K50
	C429, 430	CERAMIC CAPACITOR	CCCCH390J50
	C431, 432	ELECTR. CAPACITOR	CEAS330M16
	C433, 434	ELECTR. CAPACITOR	CEAS220M25
	C435-438	CERAMIC CAPACITOR	CCCCH390J50
	C441, 442	MYLOR FILM CAPACITOR	CQMA152J50
	C451, 452	ELECTR. CAPACITOR	CEAS4R7M50
	C461	CERAMIC CAPACITOR	CKCYF103Z50
	C52	ELECTR. CAPACITOR	CEAS101M35
	C60	ELECTR. CAPACITOR	CEAS010M50

RESISTORS

VR102	VR (22kΩ)	RCP1046
VR103	VR (1kΩ)	RCP1044
VR151, 152	VR (22kΩ)	RCP1046
Other resistors		RD1/6PM□□□J

OTHERS

CN101	CONNECTOR	52045-1610
CN351	CONNECTOR	9602S-30C
JA391, 392	JACK/12V (CONTROL IN, OUT)	PKN1004
JA393	JACK (CD DECK SYNCHRO)	PKN1005
JA401	JACK (LINE OUT L, R)	PKB1009
X351	CERAMIC RESONATOR (4. 19MHz)	VSS1014
X401	XTAL RES (OSC) (16. 9344MHz)	PSS1006

◉ Mother Board Assembly (PWM1421:PD-4700)

SEMICONDUCTORS

	IC101	PRE AMP IC	CXA1471S
	IC151	SERVO IC	CXA1372S
⚠	IC20	REGULATOR IC	M5298P
⚠	IC201	POWER OP-AMP, IC	LA6520
⚠	IC202	POWER OP-AMP, IC	LA6517
	IC21	REGULATOR, IC	NJM2930-L05
	IC301	EFM DEMODULATION IC	CXD2500AQ
	IC351	MICROCOMPUTER, IC	PD4320B
	IC401	D/A CONVERTER, IC	PD2026A
	IC405	OP-AMP IC	NJM4558D-D
	Q101	TRANSISTOR	2SA854S
	Q391	TRANSISTOR	2SC1740S
	Q403, 404	TRANSISTOR	2SD2144S
	Q405	TRANSISTOR	DTC124ES

Mark	No.	Description	Part No.
⚠	D11-14	DIODE	11ES2
	D211	ZENNER DIODE	MTZJ6. 2B
	D392-397	DIODE	1SS254
	D403	DIODE	1SS254
⚠	D52	DIODE	11ES2
	D54	ZENNER DIODE	MTZJ18B

CAPACITORS

C101, 102	ELECTR. CAPACITOR	CEAS101M10
C103	CERAMIC CAPACITOR	CCCCH200J50
C104	ELECTR. CAPACITOR	CEAS101M10
C11, 110	CERAMIC CAPACITOR	CKCYF103Z50
C13, 15	CERAMIC CAPACITOR	CKCYF103Z50
C153	ELECTR. CAPACITOR	CEAS101M10
C155	CERAMIC CAPACITOR	CKCYB182K50
C156	CERAMIC CAPACITOR	CGCYX333K25
C157	CERAMIC CAPACITOR	CGCYX103K25
C158, 159	CERAMIC CAPACITOR	CGCYX104K25
C16	CERAMIC CAPACITOR	CKCYF103Z50
C160	ELECTR. CAPACITOR	CEAS4R7M50
C161	CERAMIC CAPACITOR	CGCYX104K25
C162	ELECTR. CAPACITOR	CEAS010M50
C163	CERAMIC CAPACITOR	CGCYX104K25
C164	CERAMIC CAPACITOR	CGCYX103K25
C167	CERAMIC CAPACITOR	CKCYF103Z50
C168	CERAMIC CAPACITOR	CGCYX333K25
C169	CERAMIC CAPACITOR	CGCYX103K25
C170	CERAMIC CAPACITOR	CKCYB332K50
C171, 172	CERAMIC CAPACITOR	CKCYB472K50
C202	CERAMIC CAPACITOR	CKCYF103Z50
C212	CERAMIC CAPACITOR	CGCYX103K25
C216, 217	ELECTR. CAPACITOR	CEAS330M16
C225	CERAMIC CAPACITOR	CGCYX104K25
C25	ELECTR. CAPACITOR	CEAS332M16
C26	ELECTR. CAPACITOR	CEAS102M16
C27	ELECTROLYTIC CAPACIT	CEAS471M6R3
C28	ELECTR. CAPACITOR	CEAS101M10
C29	ELECTROLYTIC CAPACIT	CEAS471M6R3
C301	CERAMIC CAPACITOR	CGCYX104K25
C302	ELECTROLYTIC CAPACIT	CEAS471M6R3
C306	CERAMIC CAPACITOR	CKCYB152K50
C307	CERAMIC CAPACITOR	CGCYX473K25
C308	CERAMIC CAPACITOR	CGCYX103K25
C309	ELECTR. CAPACITOR	CEASR47M50
C351	ELECTROLYTIC CAPACIT	CEAS471M6R3
C353	CERAMIC CAPACITOR	CKCYF103Z50
C397	MYLOR FILM CAPACITOR	CQMA104K50
C403	CERAMIC CAPACITOR	CCCCH120J50
C404	CERAMIC CAPACITOR	CCCCH220J50
C413-416	MYLOR FILM CAPACITOR	CQMA104K50
C421	MYLOR FILM CAPACITOR	CQMA103K50
C429, 430	CERAMIC CAPACITOR	CCCCH390J50
C431, 432	ELECTR. CAPACITOR	CEAS330M16
C433, 434	ELECTR. CAPACITOR	CEAS220M25
C435-438	CERAMIC CAPACITOR	CCCCH390J50
C441, 442	MYLOR FILM CAPACITOR	CQMA152J50
C461	CERAMIC CAPACITOR	CKCYF103Z50
C52	ELECTR. CAPACITOR	CEAS010M35
C60	ELECTR. CAPACITOR	CEAS100M50

Mark	No.	Description	Part No.
RESISTORS			
	VR102	VR (22kΩ)	RCP1046
	VR103	VR (1kΩ)	RCP1044
	VR151, 152	VR (22kΩ)	RCP1046
	Other resistors		RD1/6PM□□□J
OTHERS			
	CN101	CONNECTOR	52045-1610
	CN351	CONNECTOR	9602S-28C
	JA391, 392	JACK/12V (CONTROL IN, OUT)	PKN1004
	JA393	JACK (CD DECK SYNCHRO)	PKN1005
	JA401	JACK (LINE OUT L, R)	PKB1009
	X351	CERAMIC RESONATOR (4.19MHz)	VSS1014
	X401	XTAL RES (OSC) (16.9344MHz)	PSS1006

◉ Function Board Assembly (PWZ2103:PD-6700)

SEMICONDUCTORS			
	D701-711	DIODE	1SS254
RESISTOR			
	R701	CARBON FILM RESISTOR	RD1/6PM471J
SWITCHES			
	S701-735	SWITCH (PEAK SEARCH, CHECK, CLEAR, PGM, EDIT, RANDOM PLAY, MANUAL SEARCH(◁◁, ▷▷), STOP (□), PLAY (◁), TRACK SEARCH (▯◁◁, ▷▷▯), PAUSE (▯▯), TRACK NUMBER (4-20, >20), OPEN/CLOSE (⏏), HI-LITE SCAN, REPEAT, TIME)	PSG1006
	S737-739	SWITCH (TRACK NUMBER (3, 2, 1))	PSG1006
OTHERS			
		REMOTE SENSOR	GP1U50X
	CN701	CONNECTOR	9602S-30F
	V701	FL INDICATOR TUBE	PEL1051

◉ Function Board Assembly (PWZ2096:PD-5700)

SEMICONDUCTORS			
	D701-704	DIODE	1SS254
	D708-711	DIODE	1SS254
SWITCHES			
	S701-713	SWITCH (PEAK SEARCH, CHECK, CLEAR, PGM, EDIT, RANDOM PLAY, MANUAL SEARCH(◁◁, ▷▷), STOP (□), PLAY (◁), TRACK SEARCH (▯◁◁, ▷▷▯), PAUSE (▯▯)	PSG1006
	S724-739	SWITCH (OPEN/CLOSE (⏏), HI-LITE SCAN, REPEAT, TIME, TRACK NUMBER (1-10, +10, >20)	PSG1006

Mark	No.	Description	Part No.
RESISTOR			
	R701	CARBON FILM RESISTOR	RD1/6PM471J
OTHERS			
		REMOTE SENSOR	GP1U50X
	CN701	CONNECTOR	9602S-30F
	V701	FL INDICATOR TUBE	PEL1051

◉ Function Board Assembly (PWZ2094:PD-4700)

SEMICONDUCTORS			
	D701-704	DIODE	1SS254
	D708-711	DIODE	1SS254
SWITCHES			
	S701-713	SWITCH (PEAK SEARCH, CHECK, CLEAR, PGM, EDIT, RANDOM PLAY, MANUAL SEARCH(◁◁, ▷▷), STOP (□), PLAY (◁), TRACK SEARCH (▯◁◁, ▷▷▯), PAUSE (▯▯)	PSG1006
	S724-739	SWITCH (OPEN/CLOSE (⏏), HI-LITE SCAN, REPEAT, TIME, TRACK NUMBER (1-10, +10, >20)	PSG1006
RESISTOR			
	R701	CARBON FILM RESISTOR	RD1/6PM471J
OTHERS			
	CN701	CONNECTOR	9602S-28F
	V701	FL INDICATOR TUBE	PEL1051

9. ADJUSTMENTS

9.1. Adjustment Methods

If a disc player is adjusted incorrectly or inadequately, it may malfunction or not work at all even though there is nothing at all wrong with the pickup or the circuitry. Adjust correctly following the adjustment procedure.

● Adjustment items/verification items and order

Step	Item	Test point	Adjustment location
1	Focus offset adjustment	TP1, Pin 6 (FCS. ERR)	VR103 (FCS. OFS)
2	Grating adjustment	TP1, Pin 2 (TRK. ERR)	Grating adjustment slit
3	Tracking error balance adjustment	TP1, Pin 2 (TRK. ERR)	VR102 (TRK. BAL)
4	Pickup radial/tangential direction tilt adjustment	TP1, Pin 1 (RF)	Radial tilt adjustment screw, Tangential tilt adjustment screw
5	RF level adjustment	TP1, Pin 1 (RF)	VR1 (RF level)
6	Focus servo loop gain adjustment	TP1, Pin 5 (FCS. IN) TP1, Pin 6 (FCS. ERR)	VR152 (FCS. GAN)
7	Tracking servo loop gain adjustment	TP1, Pin 3 (TRK. IN) TP1, Pin 2 (TRK. ERR)	VR151 (TRK. GAN)
8	Focus error signal verification	TP1, Pin 6 (FCS. ERR)	————

● **Abbreviation table**

FCS. ERR :Focus Error
FCS. OFS :Focus Offset
TRK. ERR :Tracking Error
TRK. BAL :Tracking Balance
FCS. GAN :Focus Gain
TRK. GAN :Tracking Gain
FCS. IN :Focus In
TRK. IN :Tracking In

● Measuring instruments and tools

1. Dual trance oscilloscope (10:1 probe)
2. Low-frequency oscillator
3. Test disc (YEDS-7)
4. 12-cm disc (with at least about 70 minutes recording)
5. Low-pass filter (39 kΩ + 0.001 μF)
6. Resistor (100 kΩ)
7. Hexagonal wrench (M3 mm)
8. Standard tools

● Test point and adjustment variable resistor positions

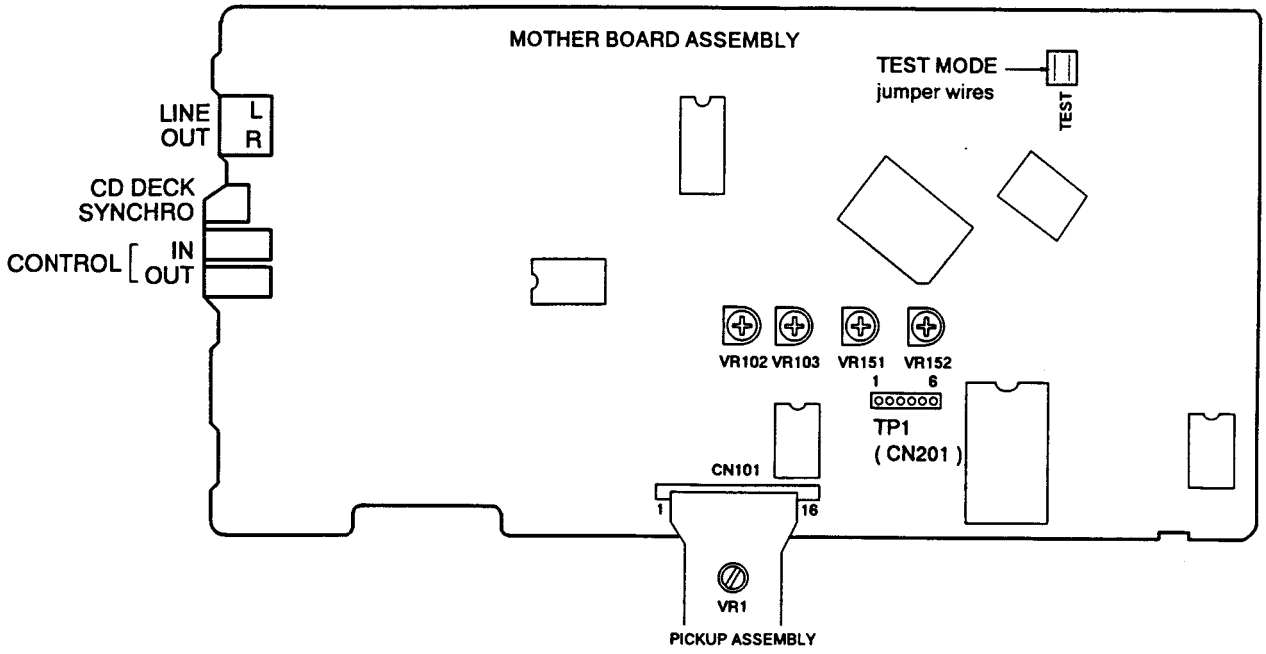


Figure 1 Adjustment Locations

● Notes

1. Use a 10:1 probe for the oscilloscope.
2. All the knob positions (settings) for the oscilloscope in the adjustment procedures are for when a 10:1 probe is used.

● Test mode

These models have a test mode so that the adjustments and checks required for service can be carried out easily. When these models are in test mode, the keys on the front panel work differently from normal. Adjustments and checks can be carried out by operating these keys with the correct procedure. For these models, all adjustments are carried out in test mode.

[Setting these models to test mode]

How to set this model into test mode.

1. Unplug the power cord from the AC socket.
2. Short the test mode jumper wires. (See Figure 1.)
3. Plug the power cord back into the AC socket.

When the test mode is set correctly, the display is different from what it usually is when the power is turned on. If the display is still the same as usual, test mode has not been set correctly, so repeat Steps 1 – 3.

[Release from test mode]

Here is the procedure for releasing the test mode:

1. Press the STOP key and stop all operations.
2. Unplug the power cord from the AC socket.

[Operations of the keys in test mode]

Code	Key name	Function in test mode	Explanation
	PROGRAM	Focus servo close	The laser diode is lit up and the focus actuator is lowered, then raised slowly and the focus servo is closed at the point where the objective lens is focused on the disc. With the player in this state, if you lightly rotate the stopped disc by hand, you can hear the sound the focus servo. If you can hear this sound, the focus servo is operating correctly. If you press this key with no disc mounted, the laser diode lights up, the focus actuator is pulled down, then the actuator is raised and lowered twice and returned to its original position.
▷	PLAY	Spindle servo ON	Starts the spindle motor in the clockwise direction and when the disc rotation reaches the prescribed speed (about 500 rpm at the inner periphery), sets the spindle servo in a closed loop. Be careful. Pressing this key when there is no disc mounted makes the spindle motor run at the maximum speed. If the focus servo does not go correctly into a closed loop or the laser light shines on the mirror section at the outermost periphery of the disc, the same symptom is occurred.
□□	PAUSE	Tracking servo close/open	Pressing this key when the focus servo and spindle servo are operating correctly in closed loops puts the tracking servo into a closed loop, displays the track number being played back and the elapsed time on the front panel, and outputs the playback signal. If the elapsed time is not displayed or not counted correctly or the audio is not played back correctly, it may be that the laser is shining on the section with no sound recorded at the outer edge of the disc, that something is out of adjustment, or that there is some other problem. This key is a toggle key and open/close the tracking servo alternately. This key has no effect if no disc is mounted.

Code	Key name	Function in test mode	Explanation
◁◁	MANUAL SEARCH REV	Carriage reverse (inwards)	Moves the pickup position toward the inner diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation.
▷▷	MANUAL SEARCH FWD	Carriage forward (outwards)	Moves the pickup position toward the outer diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation.
□	STOP	Stop	Switches off all the servos and initialized. The pickup remains where it was when this key was pressed.
⏏	OPEN/CLOSE	Disc tray open/close	Open/close the disc tray. This key is a toggle key and open/close tray altenately. Pressing this key when the disc is turning stops the disc, then opens the tray. This key operation does not affect the position of the pickup.

[How to play back a disc in test mode]

In test mode, since the servos operate independently, playing back a disc requires that you operate the keys in the correct order to close the servos.
Here is the key operation sequence for playing back a disc in test mode.

PROGRAM	Lights up the laser diode and closes the focus servo.
⇩	
PLAY ▷	Starts the spindle motor and closes the spindle servo.
⇩	
PAUSE ▯▯	Closes the tracking servo.

Wait at least 2–3 seconds between each of these operations.

1. Focus Offset Adjustment

● Objective ● Symptom when out of adjustment	Sets the DC offset for the focus error amp. The model does not focus in and the RF signal is dirty.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 6 (FCS. ERR) [Settings] 5 mV/division 10 ms/division DC mode	● Player state ● Adjustment location ● Disc	Test mode, stopped (just the Power switch on) VR103 (FCS. OFS) None needed

[Procedure]

Adjust VR103 (FCS. OFS) so that the DC voltage at TP1, Pin 6 (FCS. ERR) is -50 ± 50 mV.

2. Grating Adjustment

● Objective ● Symptom when out of adjustment	To align the tracking error generation laser beam spots to the optimum angle on the track. Play does not start, track search is impossible, tracks are skipped.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 2 (TRK. ERR) via a low pass filter. (See Figure 2) [Settings] 50 mV/division 5 ms/division DC mode	● Player state ● Adjustment location ● Disc	Test mode, focus and spindle servos closed and tracking servo open Pickup grating adjustment slit 12-cm disc. (YEDS-7 can not be used.)

[Procedure]

1. Move the pickup to the outer edge of the disc with the MANUAL SEARCH FWD ▷▷ or REV ◁◁ key.
2. Press the PROGRAM key, then the PLAY ▷ key in that order to close the focus servo then the spindle servo.
3. Insert an ordinary screwdriver into the grating adjustment slit and adjust the grating to find the null point. For more details, see the next page.
4. If you slowly turn the screwdriver counterclockwise from the null point, the amplitude of the wave gradually increases, then if you continue turning the screwdriver, the amplitude of the wave becomes smaller again. Turn the screwdriver counterclockwise from the null point and set the grating to the first point where the wave amplitude reaches its maximum.
   Reference : Figure 3 shows the relation between the angle of the tracking beam with the track and the waveform.

   Note : The amplitude of the tracking error signal is about 3 Vp-p (when a 39 kΩ + 0.001 μF low pass filter is used). If this amplitude is extremely small (2 Vp-p or less), the objective lens or the pickup malfunction may be the cause. If the difference between the amplitude of the error signal at the innermost edge and outermost edge of the disc is more than 10%, the grating is not adjusted to the optimum point, so adjust it again.
5. Return the pickup to more or less midway across the disc with the MANUAL SEARCH REV ◁◁ key, press the PAUSE ▯▯ key and double check that the track number and elapsed time are displayed on the front panel. If they are not displayed at this time or the elapsed time changes irregularly, double check the null point and adjust the grating again.

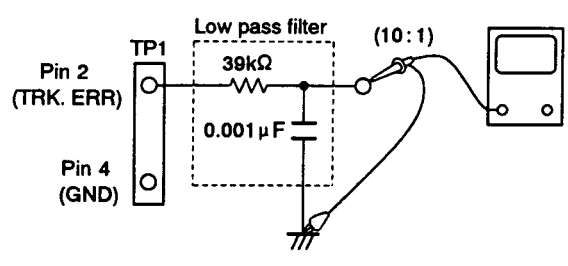
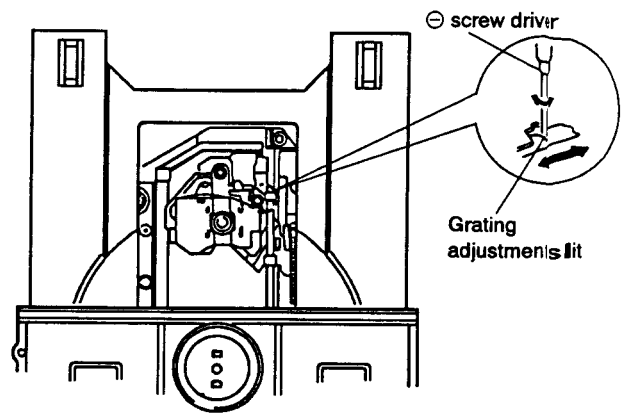


Figure 2



Adjustment locations

[How to find the null point]

When you insert the regular screwdriver into the slit for the grating adjustment and change the grating angle, the amplitude of the tracking error signal at TP1, Pin 2 changes. Within the range for the grating, there are five or six locations where the amplitude of the wave reaches a minimum. Of these five or six locations, there is only one at which the envelope of the waveform is smooth. This location is where the three laser beams divided by the grating are all right above the same track. (See Figure 3.)
This point is called the null point. When adjusting the grating, this null point is found and used as the reference position.

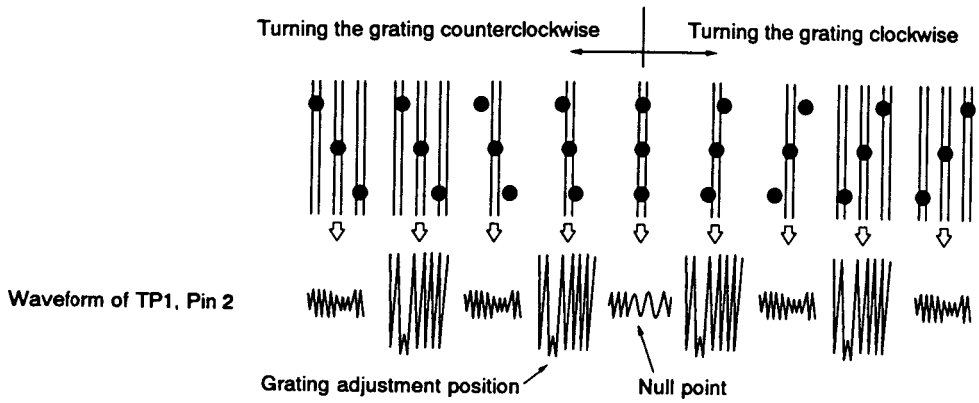
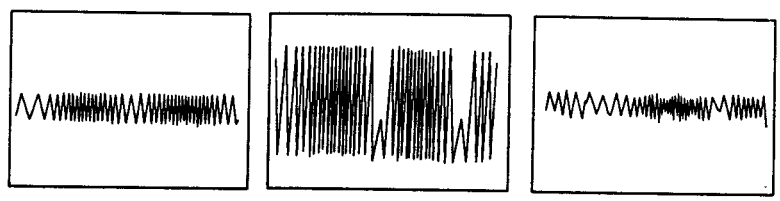


Figure 3

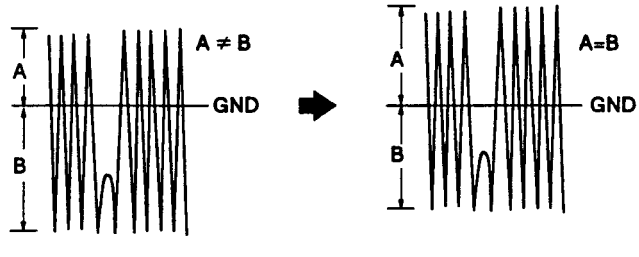


3. Tracking Error Balance Adjustment

● Objective ● Symptom when out of adjustment	To correct for the variation in the sensitivity of the tracking photodiode. Play does not start or track search is impossible.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 2 (TRK. ERR). This connection may be via a low pass filter. [Settings] 50 mV/division 5 ms/division DC mode	● Player state ● Adjustment location ● Disc	Test mode, focus and spindle servos closed and tracking servo open VR102 (TRK. BAL) YEDS-7

[Procedure]

1. Move the pickup to midway across the disc (R=35 mm) with the MANUAL SEARCH FWD ▷▷ or REV ◁◁ key.
2. Press the PROGRAM key, then the PLAY ▷ key in that order to close the focus servo then the spindle servo.
3. Line up the bright line (ground) at the center of the oscilloscope screen and put the oscilloscope into DC mode.
4. Adjust VR102 (TRK. BAL) so that the positive amplitude and negative amplitude of the tracking error signal at TP1, Pin 2 (TRK. ERR) are the same (in other words, so that there is no DC component).



When there is a DC component

When there is no DC component

4. Pickup Radial/Tangential Tilt Adjustment

● Objective ● Symptom when out of adjustment	To adjust the angle of the pickup relative to the disc so that the laser beams are shone straight down into the disc for the best read out of the RF signals. Sound broken;some discs can be played but not others.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 1 (RF). [Settings] 20 mV/division 200 ns/division AC mode	● Player state ● Adjustment location ● Disc	Test mode, play Pickup radial tilt adjustment screw and tangential tilt adjustment screw 12-cm disc. (YEDS-7 can not be used.)

[Procedure]

1. Press the MANUAL SEARCH FWD ▷▷ or REV ◁◁ key so that the radial/tangential tilt screws can be adjusted. Press the PROGRAM key, the PLAY ▷ key, then the PAUSE ▯▯ key in that order to close the focus servo then the spindle servo and put the player into play mode.
2. First, adjust the radial tilt adjustment screw with an M3-mm hexagonal wrench so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly.
3. Next, adjust the tangential tilt adjustment screw with an M3-mm hexagonal wrench so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly (Figure 5).
4. Adjust the radial tilt adjustment screw and the tangential tilt adjustment screw again so that the eye pattern can be seen the most clearly. As necessary, adjust the two screws alternately so that the eye pattern can be seen the most clearly.

Note:Radial and tangential mean the directions relative to the disc shown in Figure 4.

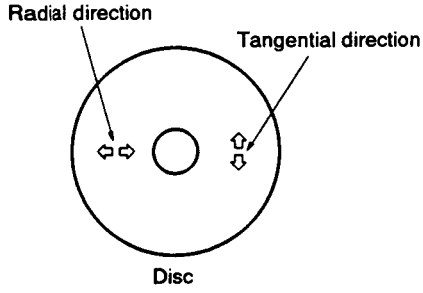
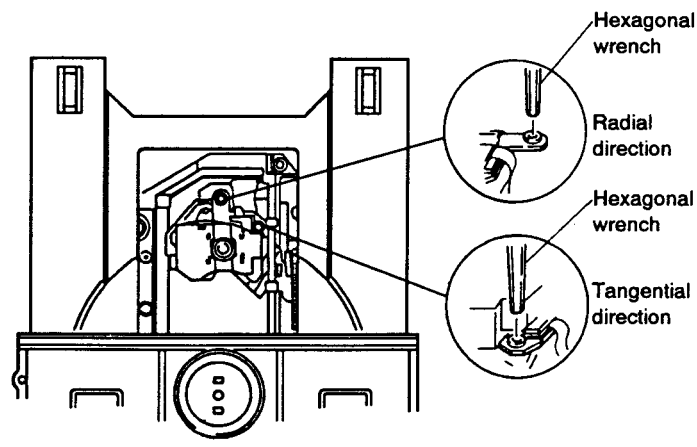


Figure 4



Adjustment locations

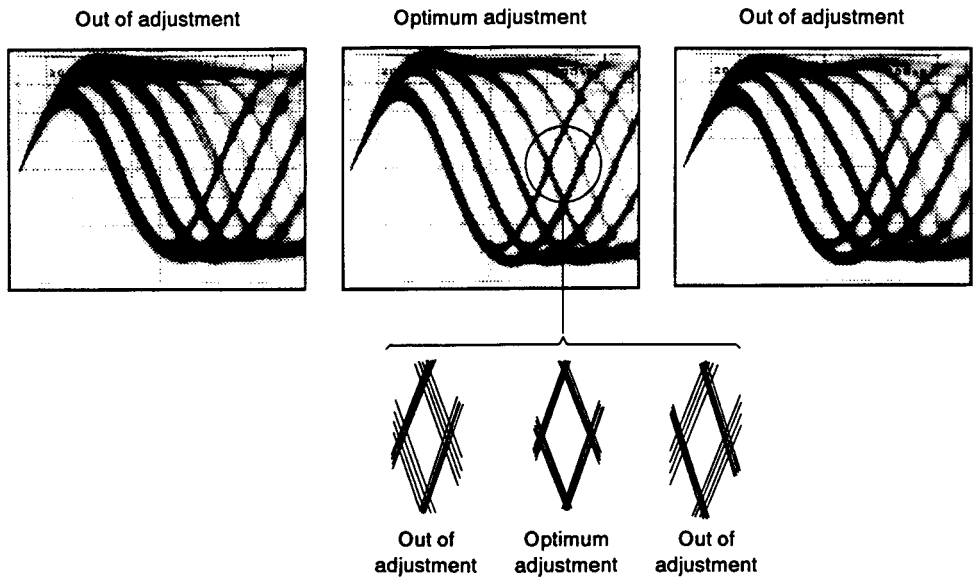


Figure 5 Eye pattern

5. RF Level Adjustment

● Objective ● Symptom when out of adjustment	To optimize the playback RF signal amplitude No play or no search		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 1 (RF). [Settings] 50 mV/division 10 ms/division AC mode	● Player state ● Adjustment location ● Disc	Test mode, play VR1(laser power) YEDS-7

[Procedure]

1. Move the pickup to midway across the disc (R=35 mm) with the MANUAL SEARCH FWD ▷▷ or REV ◁◁ key, then press the PROGRAM key, then the PLAY ▷ key in that order to close the respective servos and put the player into play mode.
2. Adjust VR1 (laser power) so that the RF signal amplitude is 1.2 Vp-p ± 0.1 V.

6. Focus Servo Loop Gain Adjustment

●Objective ●Symptom when out of adjustment	To optimize the focus servo loop gain. Playback does not start or focus actuator noisy.		
●Measurement instrument connections	See figure 6. [Settings] CH1 CH2 20 mV/division 5 mV/division X-Y mode	●Player state ●Adjustment location ●Disc	Test mode, play VR152 (FCS. GAN) YEDS-7

[Procedure]

1. Set the AF generator output to 1.2 kHz and 1 Vp-p.
2. Press the MANUAL SEARCH FWD ▷▷ or REV ◁◁ key to move the pickup to halfway across the disc (R=35 mm), then press the PROGRAM key, the PLAY ▷ key, then the PAUSE ▯▯ key in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR152 (FCS. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

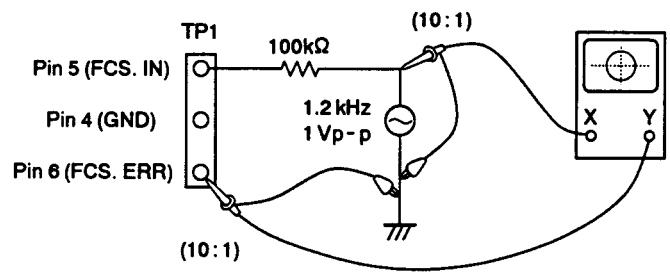
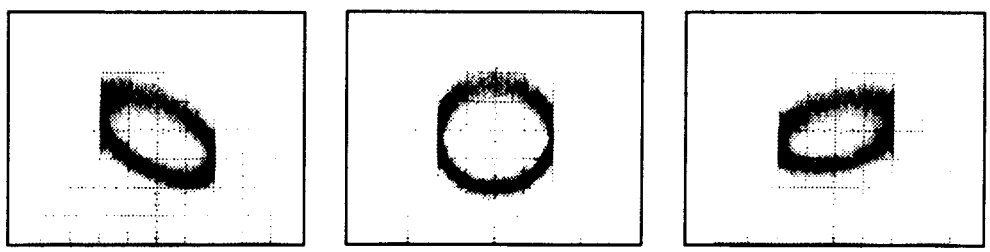


Figure 6

Focus Gain Adjustment



Higher gain | Optimum gain | Lower gain

7. Tracking Servo Loop Gain Adjustment

● Objective ● Symptom when out of adjustment	To optimize the tracking servo loop gain. Playback does not start, during searches the actuator is noisy, or tracks are skipped.		
● Measurement instrument connections	See Figure 7. [Settings] CH1 CH2 50 mV/division 50 mV/division X-Y mode	● Player state ● Adjustment location ● Disc	Test mode, play VR151 (TRK. GAN) YEDS-7

[Procedure]

1. Set the AF generator output to 1.2 kHz and 2 Vp-p.
2. Press the MANUAL SEARCH FWD ▷▷ or REV ◁◁ key to move the pickup to halfway across the disc (R=35 mm), then press the PROGRAM key, the PLAY ▷ key, then the PAUSE ▯▯ key in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR151 (TRK. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

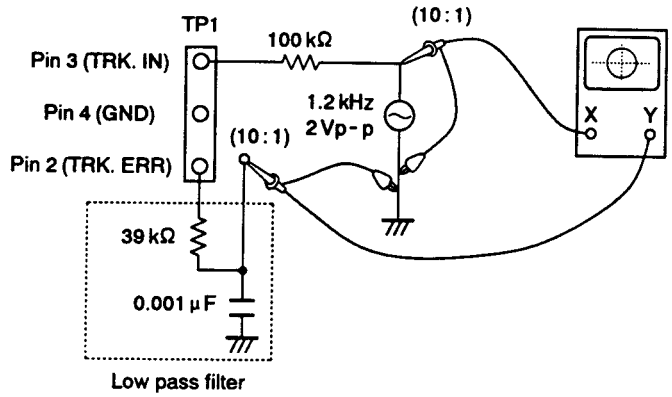
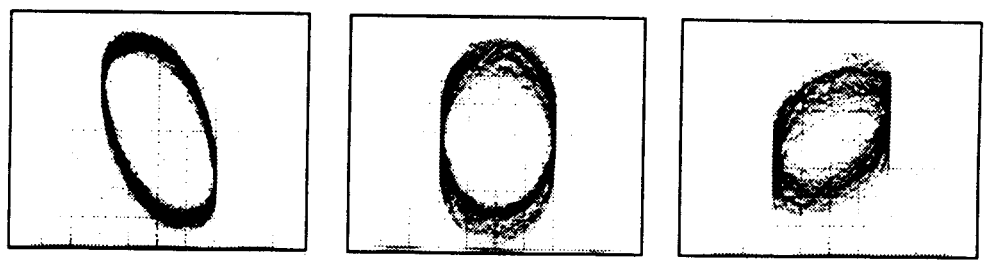


Figure 7

Tracking Gain Adjustment



Higher gain | Optimum gain | Lower gain

8. Focus Error Signal (Focus S Curve) Verification

● Objective ● Symptom when out of adjustment	To judge whether the pickup is ok or not by observing the focus error signal. The pickup is judged from the amplitude of the tracking error signal (as discussed in the section on adjusting the tracking error balance) and the waveform for the focus error signal.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 6 (FCS. ERR). [Settings] 100 mV/division 5 ms/division DC mode	● Player state ● Adjustment location ● Disc	Test mode, stop None YEDS-7

[Procedure]

1. Connect TP1 Pin 5 to ground.
2. Mount the disc.
3. While watching the oscilloscope screen, press the PROGRAM key and observe the waveform in Figure 8 for a moment. Verify that the amplitude is at least 2.5 Vp-p and that the positive and negative amplitude are about equal. Since the waveform is only output for a moment when the PROGRAM key is pressed, press this key over and over until you have checked the waveform.

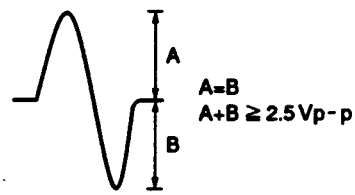


Figure 8

[Judging the pickup]

Do not judge the pickup until all the adjustments have been made correctly. In the following cases, there may be something wrong with the pickup.

1. The tracking error signal amplitude is extremely small (less than 2 Vp-p).
2. The focus error signal amplitude is extremely small (less than 2.5 Vp-p).
3. The positive and negative amplitudes of the focus error signal are extremely asymmetrical (2 : 1 ratio or more).
4. The RF signal is too small (less than 0.8 Vp-p) and even if VR1 (laser power) is adjusted , the RF signal can not be brought up to the standard level.

10. FOR PD-6700/KC, KUXJ, KCXJ, PD-5700/KC, KUXJ, KCXJ, PD-4700/KC, KUXJ AND KCXJ TYPES

NOTES:
- *Parts without part number cannot be supplied.*
- *Parts marked by " ◉ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

10.1 FOR PD-6700/KC, KUXJ AND KCXJ TYPES

CONTRAST OF MISCELLANEOUS PARTS

The PD-6700/KC, KUXJ and KCXJ types are the same as the PD-6700/KU type with the exception of the following sections.

Mark	Symbol & Description	Part No.				Remarks
		KU type	KC type	KUXJ type	KCXJ type	
	CD packing case	PHG1700	PHG1700	PHG1627	PHG1628	For packing
	Bonnet	PYY1147	PYY1147	PYY1129	PYY1129	
	Operating instructions(English)	PRB1138	•••••	PRB1138	•••••	
	Operating instructions (English/French)	•••••	PRE1141	•••••	PRE1141	

Note: As to the SCHEMATIC DIAGRAM and P. C. BOARDS CONNECTION DIAGRAM of theKC, KUXJ and KCXJ types, refer to those of the KU type.

10.2 FOR PD-5700/KC, KUXJ AND KCXJ TYPES

CONTRAST OF MISCELLANEOUS PARTS

The PD-5700/KC, KUXJ and KCXJ types are the same as the PD-5700/KU type with the exception of the following sections.

Mark	Symbol & Description	Part No.				Remarks
		KU type	KC type	KUXJ type	KCXJ type	
	CD packing case	PHG1699	PHG1699	PHG1622	PHG1625	For packing
	Bonnet	PYY1147	PYY1147	PYY1129	PYY1129	
	Operating instructions(English)	PRB1138	•••••	PRB1138	•••••	
	Operating instructions (English/French)	•••••	PRE1141	•••••	PRE1141	

Note: As to the SCHEMATIC DIAGRAM and P. C. BOARDS CONNECTION DIAGRAM of theKC, KUXJ and KCXJ types, refer to those of the KU type.

10.3 FOR PD-4700/KC, KUXJ AND KCXJ TYPES

CONTRAST OF MISCELLANEOUS PARTS

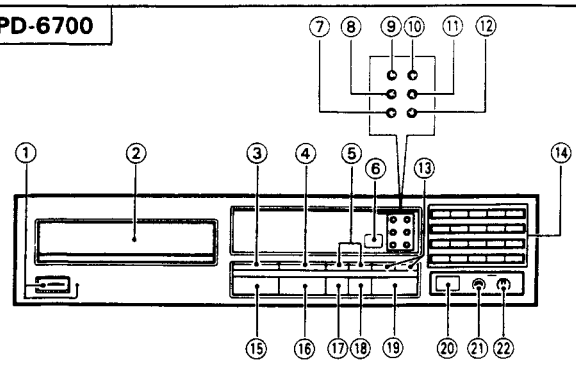
The PD-4700/KC, KUXJ and KCXJ types are the same as the PD-4700/KU type with the exception of the following sections.

Mark	Symbol & Description	Part No.				Remarks
		KU type	KC type	KUXJ type	KCXJ type	
	CD packing case	PHG1698	PHG1698	PHG1617	PHG1619	For packing
	Bonnet	PYY1147	PYY1147	PYY1129	PYY1129	
	Operating instructions(English)	PRB1138	•••••	PRB1138	•••••	
	Operating instructions (English/French)	•••••	PRE1141	•••••	PRE1141	

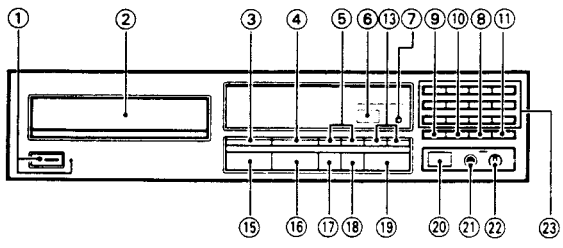
Note: As to the SCHEMATIC DIAGRAM and P. C. BOARDS CONNECTION DIAGRAM of the KC, KUXJ and KCXJ types, refer to those of the KU type.

11. PANEL FACILITIES

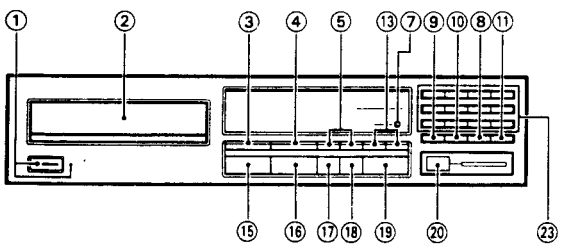
PD-6700



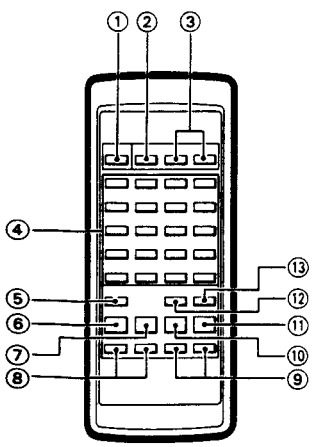
PD-5700



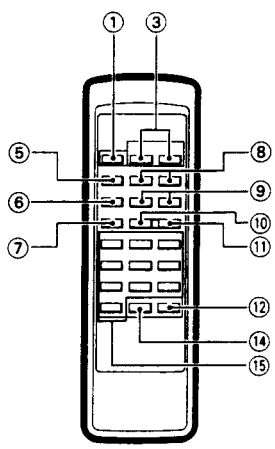
PD-4700



PD-6700 only



PD-5700 only



FRONT PANEL

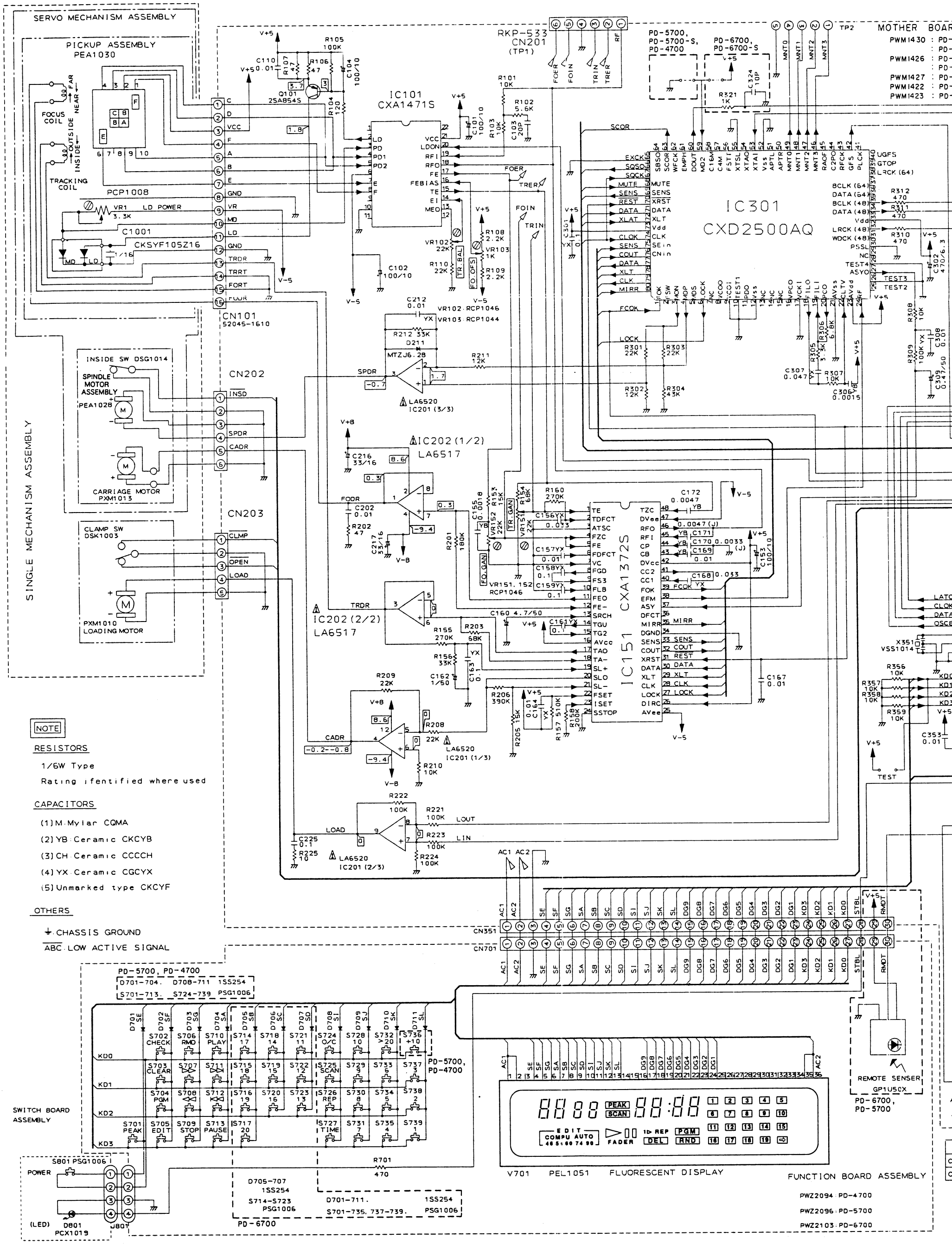
① POWER STANDBY/ON switch and indicator
② Disc tray
③ REPEAT button
④ HI-LITE SCAN button
⑤ MANUAL SEARCH (MANUAL) buttons (◀◀, ▶▶)
⑥ Remote sensor
⑦ TIME button
⑧ CHECK button
⑨ Program edit button (EDIT)
(■ COMPU/■■ AUTO)
⑩ Program button (PGM)
⑪ CLEAR button
⑫ >20 button
⑬ TRACK SEARCH (TRACK) buttons (⏮, ⏭)
⑭ TRACK NUMBER buttons (1—20)
⑮ OPEN/CLOSE button (⏏)
⑯ RANDOM PLAY button
⑰ STOP button (■)
⑱ PAUSE button (▮▮)
⑲ PLAY button (▶)
⑳ PEAK SEARCH button
㉑ Headphones jack (PHONES)
㉒ Headphones volume control (PHONES LEVEL)
㉓ TRACK NUMBER buttons (1—10, +10, >20)

NOTE:
Items ㉑ and ㉒ are included on the U.K. and European models of the PD-4700.

REMOTE CONTROL UNIT

Buttons listed here but not accompanied with explanations have the same functions as the corresponding front panel buttons.

① POWER button
② OPEN/CLOSE button
③ OUTPUT LEVEL buttons (−, +)
④ Track number buttons (1—20)
⑤ Hi-lite scan button (HI-LITE SCAN)
⑥ RANDOM PLAY button
⑦ STOP/clear button (■)
⑧ Manual search buttons (MANUAL ◀◀, ▶▶)
⑨ Track search buttons (TRACK ⏮, ⏭)
⑩ PAUSE button (▮▮)
⑪ PLAY button (▶)
⑫ Program button (PROGRAM/PGM)
⑬ >20 button
⑭ >10 button
⑮ Track number buttons (1—10)


SERVO MECHANISM ASSEMBLY
PICKUP ASSEMBLY
PEA1030
FOCUS COIL
TRACKING COIL
FAR
NEAR
OUTSIDE
INSIDE
PCP1008
VR1 LD POWER 3.3K
C1001
CKSYF105Z16
MD
LD
CN101
52045-1610
C
D
VCC
F
A
B
E
GND
VR
MD
LD
GND
TRDR
TRRT
FORT
FOUR
V+5
V-5
R105 100K
C110 0.01
R107 47
R106 47
C104 100/10
Q101 2SA854S
R104 120
IC101
CXA1471S
LD
PD
PD1
PD2
VCC
LDON
RFI
RFO
FE
FEBIAS
TE
EI
MEO
C101 100/10
R103 10K
C103 20P
R101 10K
R102 5.6K
FOER
TRER
FOIN
TRIN
VR102 22K
TR.BAL
R110 22K
VR103 1K
FO.OFS
R108 2.2K
R109 2.2K
C102 100/10
RKP-533
CN201
(TP1)
RF
PD-5700, PD-5700-S, PD-4700
PD-6700, PD-6700-S
TP2
MOTHER BOAR
PWM1430 : PD-
PWM1426 : PD-
PWM1427 : PD-
PWM1422 : PD-
PWM1423 : PD-
MNT0
MNT1
MNT2
MNT3
R321 1K
C324 10P
SCOR
EXCK
SQSO
SQCK
MUTE
SENS
REST
DATA
XLAT
CLOK
SENS
COUT
DATA
XLT
CLK
MIRR
FCOK
LOCK
IC301
CXD2500AQ
R301 22K
R303 22K
R302 12K
R304 43K
C307 0.047
R305 3.3K
R306 6.8K
R307 10K
C306 0.0015
C308 0.01
R309 100K
R308 10K
C309 0.47/50
R312 470
R311 470
R310 470
C302 470/6.3
BCLK (64)
DATA (64)
BCLK (48)
DATA (48)
LRCK (48)
WDCK (48)
PSSL
NC
TEST4
ASYO
TEST3
TEST2
UGFS
GTOP
LRCK (64)
INSIDE SW DSG1014
SPINDLE MOTOR ASSEMBLY
PEA1028
CARRIAGE MOTOR PXM1013
CLAMP SW DSK1003
PXM1010 LOADING MOTOR
SINGLE MECHANISM ASSEMBLY
CN202
CN203
INSD
SPDR
CADR
CLMP
OPEN
LOAD
C212 0.01
R212 33K
D211 MTZJ6.2B
R211 12K
VR102:RCP1046
VR103:RCP1044
LA6520
IC201 (3/3)
IC202 (1/2)
LA6517
C216 33/16
C202 0.01
R202 47
C217 33/16
R201 180K
C155 0.0018
R153 15K
R154 68K
R152 22K
VR152
TR.GAN
FO.GAN
VR151, 152
RCP1046
R160 270K
C172 0.0047
C156YX 0.033
C157YX 0.01
C158YX 0.1
C159YX 0.1
C171
C170 0.0033 (J)
C169 0.01
C153 100/10
C168 0.033
IC151
CXA1372S
TE
TDFCT
ATSC
FZC
FE
FDFCT
VC
FGD
FS3
FLB
FEO
FE-
SRCH
TGU
TG2
AVcc
TAO
TA-
SL+
SLO
SL-
FSET
ISET
SSTOP
TZC
DVee
RFO
RFI
CP
CB
DVcc
CC2
CC1
FOK
EFM
ASY
DFCT
MIRR
DGND
SENS
COUT
XRST
DATA
XLT
CLK
LOCK
DIRC
AVee
IC202 (2/2)
LA6517
C160 4.7/50
C161YX 0.1
R155 270K
R203 68K
R156 33K
C162 1/50
C163 0.1
R209 22K
R208 22K
R210 10K
R206 390K
R205 15K
C164 0.01
R157 510K
R158 200K
C167 0.01
X351
VSS1014
R356 10K
R357 10K
R358 10K
R359 10K
C353 0.01
TEST
R222 100K
R221 100K
R223 100K
R224 100K
R225 10
C225 0.1
LOUT
LIN
AC1 AC2
CN351
CN701
SE SF SG SA SB SC SD SI SJ SK SL
DG9 DG8 DG7 DG6 DG5 DG4 DG3 DG2 DG1
KD3 KD2 KD1 KD0 STBL RMOT
REMOTE SENSER
GP1U50X
PD-6700, PD-5700
PD-5700, PD-4700
D701-704. D708-711 1SS254
S701-713. S724-739 PSG1006
S702 CHECK
S706 RMD
S710 PLAY
S714 17
S718 14
S721 11
S724 O/C
S728 10
S732 >20
S736 +10
S703 CLEAR
S707
S711
S715 18
S719 15
S722 12
S725 SCAN
S729 9
S733 6
S737 3
S704 PGM
S708
S712
S716 19
S720 16
S723 13
S726 REP
S730 8
S734 5
S738 2
S701 PEAK
S705 EDIT
S709 STOP
S713 PAUSE
S717 20
S727 TIME
S731 7
S735 4
S739 1
KD0
KD1
KD2
KD3
SWITCH BOARD ASSEMBLY
R701 470
S801 PSG1006
POWER
(LED)
D801 PCX1019
J801
D705-707 1SS254
S714-S723 PSG1006
PD-6700
D701-711. 1SS254
S701-735. 737-739. PSG1006
V701 PEL1051 FLUORESCENT DISPLAY
EDIT
COMPU AUTO
FADER
PEAK
SCAN
1D REP
PGM
DEL
RND
FUNCTION BOARD ASSEMBLY
PWZ2094 : PD-4700
PWZ2096 : PD-5700
PWZ2103 : PD-6700
NOTE
RESISTORS
1/6W Type
Rating ifentified where used
CAPACITORS
(1) M Mylar CQMA
(2) YB Ceramic CKCYB
(3) CH Ceramic CCCCH
(4) YX Ceramic CGCYX
(5) Unmarked type CKCYF
OTHERS
CHASSIS GROUND
ABC LOW ACTIVE SIGNAL

MOTHER BOARD ASSEMBLY

PWM1430	: PD-6700/MEMXJ, UBXJ
	: PD-6700-S/MEWMXJ
PWM1426	: PD-5700/MEMXJ, UBXJ, UPW
	: PD-5700-S/MEWMXJ
PWM1427	: PD-5700/SD
PWM1422	: PD-4700/MEMXJ, UBXJ
PWM1423	: PD-4700/SD PWM1421 : PD-4700/UPW

PD-6700, PD-6700-S

DIGITAL OUT

JA301 TOTX178

OPTICAL

EXCEPT PD-4700/SD

IC4401 PD2026A

IC351 PD4320B

PD-4700

PD-6700, PD-6700-S, PD-5700, PD-5700-S

JA4C1 (1/2) PKB1009

LINEOUT JACK

JA401 (2/2) PKB1009

HEADPHONE BOARD ASSEMBLY

JA393 PKN1005 CD DECK SYNCHRO

JA392 PKN1004 OUT

JA391 PKN1004 IN

CONTROL

J501

CN401 52147-0310

PHONES

● FOR SD TYPE

PTT1190

PSB1002 LINE VOLTAGE SELECTOR

1 : 240V
2 : 220V
3 : 120 – 127V
4 : 110V

POWER TRANSFORMER

PDG1013 AC POWER CORD

50/60Hz

AC220 – 230V
230 – 240V
50/60Hz

AC POWER CORD
MEMXJ, MEWMXJ : PDG1003
UBXJ : PDG1037
UPW : PDG1006

MEMXJ, MEWMXJ : PTT1188
UBXJ, UPW : PTT1189

*2

	IC405
PD-6700 PD-6700-S	NJM5532DD
OTHERS	NJM4558D-D

*3

	C433,C434
PD-5700/SD PD-4700	22/25
OTHERS	22/50

*4

	R445,R446	R447,R448	R461,R462
PD-4700/SD	1k	SHORT (JUMPER)	SHORT (JUMPER)
OTHERS	270	470	270

	IC31
PD-5700/SD PD-4700/SD	SHORT (JUMPER)
OTHERS	USED

	PD-4700	PD-5700, 6700
CN351	9602S-28C	9602S-30C
CN701	9602S-28F	9602S-30F

*5

	C29
PD-5700, PD-5700-S	1000/16
OTHERS	470/6.3

MOTHER BOARD ASSEMBLIES (PWM1426 and PWM1427)

The mother board assemblies (PWM1426 and PWM1427) are the same as the mother board assembly (PWM1425) with the exception of the following parts.

Mark	Symbol & Description	Part No.			Remarks
		PWM1425	PWM1426	PWM1427	
⚠	IC31	• • • • •	ICP-N10	• • • • •	
	D391-D394	1SS254	• • • • •	• • • • •	
	C29	CEAS471M6R3	CEAS102M16	CEAS471M6R3	
	C393	CCCSL101J50	• • • • •	• • • • •	
	C415,C416	CQMA104K50	CFTXA104J50	CQMA104K50	
	C433,C434	CEAS220M25	CEAS220M50	CEAS220M50	
	C441,C442	CQMA152J50	CQSA152J50	CQMA152J50	
	R391	RD1/6PM244J	• • • • •	• • • • •	
	R392	RD1/6PM102J	• • • • •	• • • • •	
	JA391, JA392 JACK (CONTROL IN, OUT)	PKN1004	• • • • •	• • • • •	

2.3 FOR PD-4700/MEMXJ, UBXJ, SD AND UPW TYPES

The PD-4700/MEMXJ, UBXJ, SD and UPW types are the same as the PD-4700/KU type with the exception of the following sections.

Mark	Symbol & Description	Part No.					Remarks
		PD-4700 /KU type	PD-4700 /MEMXJ type	PD-4700 /UBXJ type	PD-4700 /SD type	PD-4700 /UPW type	
◉	Mother board assembly	PWM1421	PWM1422	PWM1422	PWM1423	PWM1421	
	Headphone board assembly	• • • • •	Non supply	Non supply	• • • • •	• • • • •	
⚠	Power transformer (AC120V)	PTT1187	• • • • •	• • • • •	• • • • •	• • • • •	
⚠	Power transformer (AC220V-230V, 230V-240V)	• • • • •	PTT1188	PTT1189	• • • • •	PTT1189	
⚠	Power transformer (AC110V, 120-127V, 220-230V, 230-240V)	• • • • •	• • • • •	• • • • •	PTT1190	• • • • •	
⚠	Line voltage selector (AC110V, 120-127V, 220-230V, 230-240V)	• • • • •	• • • • •	• • • • •	PSB1002	• • • • •	
⚠	AC power cord	PDG1040	PDG1003	PDG1037	PDG1013	PDG1006	
⚠	Strain relief	CM-22	CM-22B	CM-22B	CM-22B	CM-22B	
	Headphone knob	• • • • •	PAC1370	PAC1370	• • • • •	• • • • •	
	Display window AK	PAM1462	• • • • •	• • • • •	PAM1462	PAM1462	
	Display window AH	• • • • •	PAM1492	PAM1492	• • • • •	• • • • •	
	Function panel assembly	PEA1139	PEA1144	PEA1144	PEA1139	PEA1139	
	CD packing case	PHG1698	PHG1619	PHG1619	PHG1618	PHG1618	For packing
	Stopper	• • • • •	PNM1070	PNM1070	• • • • •	• • • • •	
	Insulator	• • • • •	VNK1095	VNK1095	• • • • •	• • • • •	
	Leg assembly	PXA1201	• • • • •	• • • • •	PXA1201	PXA1201	
	Bonnet	PYY1147	PYY1129	PYY1129	PYY1147	PYY1147	
	Operating instructions (English)	PRB1138	• • • • •	PRB1138	PRB1138	PRB1138	
	Operating instructions (Spanish)	• • • • •	• • • • •	• • • • •	PRC1029	• • • • •	
	Operating instructions (English/French)	• • • • •	PRE1141	• • • • •	• • • • •	• • • • •	
	Operating instructions (German/Italian / Dutch/Swedish/Spanish/Portuguese)	• • • • •	PRF1041	• • • • •	• • • • •	• • • • •	

MOTHER BOARD ASSEMBLIES (PWM1422 AND PWM1423)

The mother board assemblies (PWM1422 and PWM1423) are the same as the mother board assembly (PWM1421) with the exception of the following parts.

Mark	Symbol & Description	Part No.			Remarks
		PWM1421	PWM1422	PWM1423	
⚠	IC31	• • • • •	ICP-N10	• • • • •	
	IC406	• • • • •	BA15218	• • • • •	
	Q451,Q452	• • • • •	DTA124ES	• • • • •	
	Q453,Q454	• • • • •	2SB1296	• • • • •	
	C451,C452	• • • • •	CEAS4R7M50	• • • • •	
	R445,R446	RD1/6PM102J	RD1/6PM271J	RD1/6PM102J	
	R447,R448,R459-R462	• • • • •	RD1/6PM471J	• • • • •	
	R451,R452	• • • • •	RD1/6PM473J	• • • • •	
	R453,R454,R481,R482	• • • • •	RD1/6PM470J	• • • • •	
	R455,R456	• • • • •	RD1/6PM102J	• • • • •	
	CN401	• • • • •	52147-0310	• • • • •	

HEADPHONE BOARD ASSEMBLY

The headphone board assembly of the PD-4700/MEMXJ and UBXJ types are the same as the PD-6700 and PD-5700 series for the service supply parts.

2.4 SCHEMA

1. RESISTORS :
Indicated in Ω , 1/4W,
M;M Ω , (F); ± 1%, (G

2. CAPACITORS :
Indicated in capacity(
voltage is 50V except el

3. VOLTAGE, CURRENT :
;DC voltage(
⇦ mA ;DC current
Value in( )

4. OTHERS :
➡ ;Signal route.
⊘ ;Adjusting point.
The ⚠ mark found on
factor of the part. Th
designation.
※ marked capacitors a

This is the basic sc
improvements in design

5. SWITCHES : (The unde
SWITCH BOARD ASSE
S801 : POWER ON
FUNCTION BOARD AS
(PD-6700, PD-6700-
S701 : PEAK SEARC
S702 : CHECK
S703 : CLEAR
S704 : PGM
S705 : EDIT
S706 : RANDOM PL
S707 : ▷▷] MAN
S708 : ◁◁]
S709 : STOP(□)
S710 : PLAY(▷)
S711 : ▷▷▯] TR
S712 : ▯◁◁]
S713 : PAUSE(▯▯)
S714 : 17]
S715 : 18
S716 : 19
S717 : 20
S718 : 14 TRACK
S719 : 15
S720 : 16
S721 : 11
S722 : 12
S723 : 13]
S724 : OPEN/CLOS
S725 : HI - LITE SC
S726 : REPEAT
S727 : TIME
S728 : 10]
S729 : 9
S730 : 8
S731 : 7
S732 : >20
S733 : 6 TRA
S734 : 5
S735 : 4
S737 : 3
S738 : 2
S739 : 1]

1427)

e the same as the mother board assembly (PWM1425) with the

Part No.			Remarks
M1425	PWM1426	PWM1427	
• • •	ICP-N10	• • • • •	
S254	• • • • •	• • • • •	
71M6R3	CEAS102M16	CEAS471M6R3	
L101J50	• • • • •	• • • • •	
104K50	CFTXA104J50	CQMA104K50	
220M25	CEAS220M50	CEAS220M50	
A152J50	CQSA152J50	CQMA152J50	
PM244J	• • • • •	• • • • •	
PM102J	• • • • •	• • • • •	
N1004	• • • • •	• • • • •	

PW TYPES

e same as the PD-4700/KU type with the exception of the

Part No.				Remarks
PD-4700 MEMXJ type	PD-4700 /UBXJ type	PD-4700 /SD type	PD-4700 /UPW type	
PWM1422	PWM1422	PWM1423	PWM1421	
Non supply	Non supply	• • • • •	• • • • •	
• • • • •	• • • • •	• • • • •	• • • • •	
PTT1188	PTT1189	• • • • •	PTT1189	
• • • • •	• • • • •	PTT1190	• • • • •	
• • • • •	• • • • •	PSB1002	• • • • •	
PDG1003	PDG1037	PDG1013	PDG1006	
CM-22B	CM-22B	CM-22B	CM-22B	
PAC1370	PAC1370	• • • • •	• • • • •	
• • • • •	• • • • •	PAM1462	PAM1462	
PAM1492	PAM1492	• • • • •	• • • • •	
PEA1144	PEA1144	PEA1139	PEA1139	
PHG1619	PHG1619	PHG1618	PHG1618	For packing
PNM1070	PNM1070	• • • • •	• • • • •	
VNK1095	VNK1095	• • • • •	• • • • •	
• • • • •	• • • • •	PXA1201	PXA1201	
PYY1129	PYY1129	PYY1147	PYY1147	
• • • • •	PRB1138	PRB1138	PRB1138	
• • • • •	• • • • •	PRC1029	• • • • •	
PRE1141	• • • • •	• • • • •	• • • • •	
PRF1041	• • • • •	• • • • •	• • • • •	

MOTHER BOARD ASSEMBLIES (PWM1422 AND PWM1423)

The mother board assemblies (PWM1422 and PWM1423) are the same as the mother board assembly (PWM1421) with the exception of the following parts.

Mark	Symbol & Description	Part No.			Remarks
		PWM1421	PWM1422	PWM1423	
⚠	IC31	• • • • •	ICP-N10	• • • • •	
	IC406	• • • • •	BA15218	• • • • •	
	Q451,Q452	• • • • •	DTA124ES	• • • • •	
	Q453,Q454	• • • • •	2SB1296	• • • • •	
	C451,C452	• • • • •	CEAS4R7M50	• • • • •	
	R445,R446	RD1/6PM102J	RD1/6PM271J	RD1/6PM102J	
	R447,R448,R459-R462	• • • • •	RD1/6PM471J	• • • • •	
	R451,R452	• • • • •	RD1/6PM473J	• • • • •	
	R453,R454,R481,R482	• • • • •	RD1/6PM470J	• • • • •	
	R455,R456	• • • • •	RD1/6PM102J	• • • • •	
	CN401	• • • • •	52147-0310	• • • • •	

HEADPHONE BOARD ASSEMBLY

The headphone board assembly of the PD-4700/MEMXJ and UBXJ types are the same as the PD-6700 and PD-5700 series for the service supply parts.

2.4 SCHEMATIC DIAGRAM

1. RESISTORS :
Indicated in Ω , 1/4W, 1/6W and 1/8W, ± 5% tolerance unless otherwise noted k;k Ω , M;M Ω , (F); ± 1%, (G); ± 2%, (K); ± 10%, (M); ± 20% tolerance.

2. CAPACITORS :
Indicated in capacity(μF)/voltage(V)unless otherwise noted p ; pF. Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT :
▭ ;DC voltage(V)at play state.
⇦ mA ;DC current at play state.
Value in( )is DC current at stop state.

4. OTHERS :
➡ ;Signal route.
⊘ ;Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES : (The underlined indicates the switch position)
SWITCH BOARD ASSEMBLY
S801 : POWER ON — OFF

FUNCTION BOARD ASSEMBLY
(PD-6700, PD-6700-S TYPES)
S701 : PEAK SEARCH
S702 : CHECK
S703 : CLEAR
S704 : PGM
S705 : EDIT
S706 : RANDOM PLAY
S707 : ▷▷] MANUAL SEARCH
S708 : ◁◁]
S709 : STOP(□)
S710 : PLAY(▷)
S711 : ▷▷|] TRACK SEARCH
S712 : |◁◁]
S713 : PAUSE(▯▯)
S714 : 17]
S715 : 18
S716 : 19
S717 : 20
S718 : 14
S719 : 15 TRACK NUMBER
S720 : 16
S721 : 11
S722 : 12
S723 : 13]
S724 : OPEN/CLOSE(⏏)
S725 : HI - LITE SCAN
S726 : REPEAT
S727 : TIME
S728 : 10]
S729 : 9
S730 : 8
S731 : 7
S732 : >20
S733 : 6 TRACK NUMBER
S734 : 5
S735 : 4
S737 : 3
S738 : 2
S739 : 1]

FUNCTION BOARD ASSEMBLY
(PD-5700, PD-5700-S AND PD4700 TYPES)
S701 : PEAK SEARCH
S702 : CHECK
S703 : CLEAR
S704 : PGM
S705 : EDIT
S706 : RANDOM PLAY
S707 : ▷▷] MANUAL SEARCH
S708 : ◁◁]
S709 : STOP(□)
S710 : PLAY(▷)
S711 : ▷▷|] TRACK SEARCH
S712 : |◁◁]
S713 : PAUSE(▯▯)
S724 : OPEN/CLOSE(⏏)
S725 : HI - LITE SCAN
S726 : REPEAT
S727 : TIME
S728 : 10]
S729 : 9
S730 : 8
S731 : 7
S732 : >20
S733 : 6 TRACK NUMBER
S734 : 5
S735 : 4
S736 : +10
S737 : 3
S738 : 2
S739 : 1]

1. SAFETY INFORMATION

(FOR EUROPEAN MODEL ONLY)

VARO!
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

ADVERSEL:
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

VARNING!
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

LASER
Kuva 1
Lasersateilyn
varoitusmerkki

WARNING!
DEVICE INCLUDES LASER DIODE WHICH EMITS INVISIBLE INFRARED RADIATION WHICH IS DANGEROUS TO EYES. THERE IS A WARNING SIGN ACCORDING TO PICTURE 1 INSIDE THE DEVICE CLOSE TO THE LASER DIODE.

IMPORTANT
THIS PIONEER APPARATUS CONTAINS LASER OF HIGHER CLASS THAN 1. SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS
MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780-785 nm

LASER
Picture 1
Warning sign for
laser radiation

LABEL CHECK (SINGLE type)

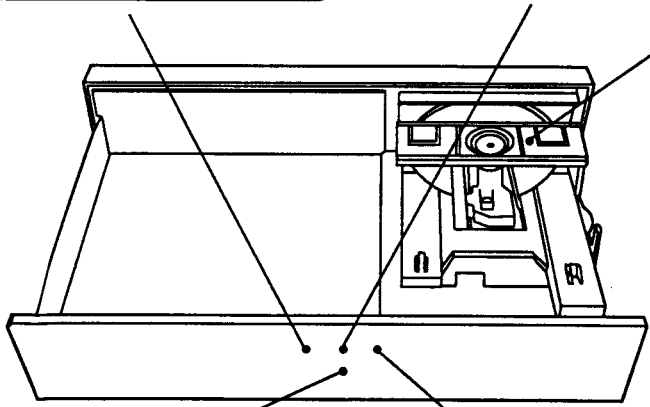
UBXJ type

CAUTION
INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO BEAM PRW1018

MEMXJ and MEWMXJ types

ADVARSEL
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHED SAFBRYDERE ER UDE AF FUNKTION.
UNDGÅ UDSÆTTELSE FOR STRÅLING.
VORSICHT!
UNSICHTBARE LASER-STRAHLUNG TRITT AUS, WENN DECKEL (ODER KLAPPE) GEÖFFNET IST! NICHT DEM STRAHL AUSSETZEN!
VRW1094

MEMXJ, MEWMXJ and UBXJ types



VARO!
Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.
VARNING!
Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.
PRW1233

MEMXJ and MEWMXJ types

CLASS 1
LASER PRODUCT
VRW-328

MEMXJ, MEWMXJ and UBXJ types

Additional Laser Caution

1. Laser Interlock Mechanism
   The position of the switch (S601) for detecting loading completion is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S601) is not in $\overline{\text{CLMP}}$ terminal side (when the mechanism is not clamped and $\overline{\text{CLMP}}$ signal is high level).
   Thus, the interlock will no longer function if the switch (S601) is deliberately set to $\overline{\text{CLMP}}$ terminal side (if $\overline{\text{CLMP}}$ signal is low level).
   In the test mode* the interlock mechanism will not function.
   Laser diode oscillation will continue if pins 2 and 3 of CXA1471S (IC101) are connected to ground or pin 20 is connected to high level (ON) or the terminals of Q101 are shorted to each other (fault condition).
2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 or higher laser beam.

*: Refer to page 32 of the service manual (PD-6700, PD-5700, PD-4700), ARP2193.

PIONEER®
The Art of Entertainment

Service Manual

ORDER NO.
ARP2213

COMPACT DISC PLAYER

PD-6700
MEMXJ,UBXJ

PD-6700-S
MEWMXJ

PD-5700
MEMXJ,UBXJ,SD,UPW

PD-5700-S
MEWMXJ

PD-4700
MEMXJ,UBXJ,SD,UPW

- **Refer to the service manual ARP2193, PD-6700, PD-5700, and PD-4700.**
- **This manual is applicable to the PD-6700/MEMXJ, UBXJ, PD-6700-S/MEWMXJ, PD-5700/MEMXJ, UBXJ, SD, UPW, PD-5700-S/MEWMXJ, PD-4700/MEMXJ, UBXJ, SD and UPW types.**

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2.2 FOR PD-5700/MEMXJ, UBXJ, SD, UPW AND PD-5700-S/MEWMXJ TYPES

The PD-5700/MEMXJ, UBXJ, SD, UPW and PD-5700-S/MEWMXJ types are the same as the PD-5700/KU type with the exception of the following sections.

Mark	Symbol & Description	Part No.						Remarks
		PD-5700 /KU type	PD-5700 /MEMXJ type	PD-5700 /UBXJ type	PD-5700 /SD type	PD-5700 /UPW type	PD-5700-S /MEWMXJ	
◉	Mother board assembly	PWM1425	PWM1426	PWM1426	PWM1427	PWM1426	PWM1426	
⚠	Power transformer (AC120V)	PTT1187	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	
⚠	Power transformer (AC220V-230V, 230V-240V)	• • • • •	PTT1188	PTT1189	• • • • •	PTT1189	PTT1188	
⚠	Power transformer (AC110V, 120-127V, 220V-230V, 230V-240V)	• • • • •	• • • • •	• • • • •	PTT1190	• • • • •	• • • • •	
⚠	Line voltage selector (AC110V, 120-127V, 220V-230V, 230V-240V)	• • • • •	• • • • •	• • • • •	PSB1002	• • • • •	• • • • •	
⚠	Strain relief	CM-22	CM-22B	CM-22B	CM-22B	CM-22B	CM-22B	
⚠	AC power cord	PDG1040	PDG1003	PDG1037	PDG1013	PDG1006	PDG1003	
	Connection cord with mini plug	PDE-319	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	
	CD packing case	PHG1699	PHG1625	PHG1625	PHG1623	PHG1623	PHG1626	For packing
	Bonnet	PYY1147	PYY1129	PYY1129	PYY1147	PYY1147	PYY1130	
	Display window BK	PAM1463	• • • • •	• • • • •	PAM1463	PAM1463	• • • • •	
	Display window BH	• • • • •	PAM1498	PAM1498	• • • • •	• • • • •	PAM1498	
	Stopper	PNM1070	PNM1070	PNM1070	• • • • •	• • • • •	PNM1070	
	Insulator	VNK1095	VNK1095	VNK1095	• • • • •	• • • • •	VNK1095	
	Leg assembly	• • • • •	• • • • •	• • • • •	PXA1201	PXA1201	• • • • •	
	Headphone knob	PAC1370	PAC1370	PAC1370	PAC1370	PAC1370	PAC1402	
	Power button	PAC1540	PAC1540	PAC1540	PAC1540	PAC1540	• • • • •	
	Power button S	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	PAC1580	
	Play button B	PAC1542	PAC1542	PAC1542	PAC1542	PAC1542	• • • • •	
	Play button BS	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	PAC1582	
	Program button B	PAC1544	PAC1544	PAC1544	PAC1544	PAC1544	• • • • •	
	Program button BS	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	PAC1584	
	Headphone name plate S	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	PAM1500	
	Function panel assembly	PEA1140	PEA1140	PEA1140	PEA1140	PEA1140	PEA1145	
	Tray name plate	PNW1900	PNW1900	PNW1900	PNW1900	PNW1900	• • • • •	
	Tray name plate S	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	PNW1984	
	Operating instructions (English)	PRB1138	• • • • •	PRB1138	PRB1138	PRB1138	• • • • •	
	Operating instructions (Spanish)	• • • • •	• • • • •	• • • • •	PRC1029	• • • • •	• • • • •	
	Operating instructions (English/French)	• • • • •	PRE1141	• • • • •	• • • • •	• • • • •	• • • • •	
	Operating instructions (German/Italian / Dutch/Swedish /Spanish/Portuguese)	• • • • •	PRF1041	• • • • •	• • • • •	• • • • •	PRF1041	

2. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

The PD-6700/MEMXJ, UBXJ and PD-6700-S/MEWMXJ types are the same as the PD-6700/KU type with the exception of the following sections.

Mark	Symbol & Description	Part No.				Remarks
		PD-6700 /KU type	PD-6700 /MEMXJ type	PD-6700 /UBXJ type	PD-6700-S /MEWMXJ	
◉	Mother board assembly	PWM1429	PWM1430	PWM1430	PWM1430	
⚠	Power transformer (AC120V)	PTT1187	• • • • •	• • • • •	• • • • •	
⚠	Power transformer (AC220V-230V, 230V-240V)	• • • • •	PTT1188	PTT1189	PTT1188	
⚠	AC power cord	PDG1015	PDG1003	PDG1037	PDG1003	
⚠	Strain relief	CM-22C	CM-22B	CM-22B	CM-22B	
	CD packing case	PHG1700	PHG1628	PHG1628	PHG1630	For packing
	Connection cord with mini plug	PDE-319	• • • • •	• • • • •	• • • • •	
	Bonnet	PYY1147	PYY1129	PYY1129	PYY1130	
	Display window CK	PAM1470	• • • • •	• • • • •	• • • • •	
	Display window CH	• • • • •	PAM1499	PAM1499	PAM1499	
	Headphone knob	PAC1370	PAC1370	PAC1370	PAC1402	
	Power button	PAC1540	PAC1540	PAC1540	• • • • •	
	Power button S	• • • • •	• • • • •	• • • • •	PAC1580	
	Play button B	PAC1542	PAC1542	PAC1542	• • • • •	
	Play button BS	• • • • •	• • • • •	• • • • •	PAC1582	
	Select button	PAC1545	PAC1545	PAC1545	• • • • •	
	Select button S	• • • • •	• • • • •	• • • • •	PAC1587	
	Function panel assembly	PEA1141	PEA1141	PEA1141	PEA1148	
	Tray name plate	PNW1900	PNW1900	PNW1900	• • • • •	
	Tray name plate S	• • • • •	• • • • •	• • • • •	PNW1984	
	Headphone name plate S	• • • • •	• • • • •	• • • • •	PAM1500	
	Operating instructions(English)	PRB1138	• • • • •	PRB1138	• • • • •	
	Operating instructions(English/French)	• • • • •	PRE1141	• • • • •	• • • • •	
	Operating instructions(German/Italian /Dutch/Swedish/Spanish/Portuguese)	• • • • •	PRF1041	• • • • •	PRF1041	

MOTHER BOARD ASSEMBLY(PWM1430)

The mother board assembly(PWM1430) is the same as the mother board assembly(PWM1429) with the exception of the following parts.

Mark	Symbol & Description	Part No.		Remarks
		PWM1429	PWM1430	
⚠	IC31	• • • • •	ICP-N10	
	IC405	NJM4558D-D	NJM5532DD	
	D391-D394	1SS254	• • • • •	
	C393	CCCSL101J50	• • • • •	
	R391	RD1/6PM244J	• • • • •	
	R392	RD1/6PM102J	• • • • •	
	JA391, JA392 JACK(CONTROL IN, OUT)	PKN1004	• • • • •	

12. SPECIFICATIONS

1. General

Type ..... Compact disc digital audio system
Usable discs ..... Compact Disc
Power requirements
U.K. and Australian models ..... AC 230—240V, 50/60Hz
European model ..... AC 220—230V, 50/60Hz
U.S. and Canadian models ..... AC 120V, 60Hz
Multi-voltage model ..... AC 110/120—127/220/240V (switchable) 50/60Hz
Power consumption 12W
Operating temperature ..... +5°C—+35°C (+41°F—+95°F)
Weight 3.6kg (7lb, 15oz)
External dimensions
PD-4700: U.K. and European models,
PD-5700: U.S., Canadian, U.K. and European models,
PD-6700: All models ..... 420(W) × 276(D) × 101(H)mm 16-9/16(W) × 10-7/8(D) × 4(H) in.
Other models ..... 420(W) × 276(D) × 96(H)mm 16-9/16(W) × 10-7/8(D) × 3-13/16(H) in.

2. Audio section

Frequency response ..... 2Hz—20kHz
Dynamic range ..... 96dB or more (EIAJ)
Total harmonic distortion ..... 0.003% or less (EIAJ)
Output voltage 2.0V
Wow and flutter ..... Limit of measurement (±0.001% W.PEAK) or less (EIAJ)
Number of channels ..... 2 channels (stereo)

3. Output terminal

- Audio line output terminals
- CD-DECK SYNCHRO terminal
- Control input/output terminals
  (PD-4700: All models,
  PD-5700: U.S. and Canadian models only,
  PD-6700: U.S. and Canadian models only)
- Headphone jack (with volume control)
  (PD-4700: U.K. and European models only,
  PD-5700: All models,
  PD-6700: All models)
- Optical digital output terminal
  (PD-6700: All models)

4. Functions

- Play
- Pause
- Stop
- Manual search
- Track search
- Peak search
- Hi-lite scan
- Direct selection
- Single track repeat
- All track repeat
- Programmed repeat
- Random play repeat
- Programmed random play repeat
- Programmed playback (up to 24 tracks)
- Pause program
- Program check
- Program correction
- Program clear
- Auto program edit
- Compu program edit
- Digital level control (PD-6700/PD-5700: Remote control only)
- Random play
- Programmed random play
- Program hold
- Level hold
- Timer start
- CD-deck synchro

5. Accessories

- Remote control unit (PD-6700, PD-5700) 1
- Size AAA/R03 dry cell batteries (PD-6700, PD-5700) 2
- Output cable 1
- Control cord
  (PD-6700: U.S. and Canadian models)
  (PD-5700: U.S. and Canadian models)
  (PD-4700: All models) 1
- Operating instructions 1

NOTE:
The specifications and design of this product are subject to change without notice, due to improvements.